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MILITARY REVIEW



U. S. ARMY COMMAND AND GENERAL STAFF COLLEGE
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guerrilla WARFARE IN THE UKRAINE

Enrique Martínez Codo'

THE perversion of historical fact to accomplish Soviet propaganda ends is no more evident than in studies concerning guerrilla operations behind the German lines in 1941-44. The Soviets would have us believe that all guerrillas, and particularly those operating in the Ukraine, were Communist and that they fought under Soviet control against the Germans. Many Western writers, relying on the accuracy of abundant Soviet information sources, innocently have cultivated the literary fields in which the Soviet propagandists have planted the seeds of distortion, misplaced emphasis, and half-truth. Of such ingredients the military reputation of "General" Khrushchev is made.

It is true that Red guerrillas were active in the Ukraine. But they were mostly remnants of the regular forces which the Germans scattered during the first few months of the war or they were special troops parachuted behind the German lines. Their actions were of little consequence in the years 1941-44.

Former Ukrainian guerrillas now living in Argentina furnished the information on which Martínez Codo' based his reportorial article. The nature of all guerrilla warfare and the need to safeguard sources connected with this Nationalist movement for freedom and independence imposes limits on the documentation normally evident in the MILITARY REVIEW. Although the Ukrainian struggle for independence so far in this century has not succeeded, it is important to recognize that elements of the movement which Martínez Codo' describes could someday become an active force in any world conflict.—Editor.

The Ukrainian people never backed the Soviet guerrillas. They were not only anti-Communist but also anti-Russian by tradition. The Ukrainians fought both the German Army of occupation and the Soviet guerrillas who attempted to operate in their country.

The Ukrainian Guerrilla Army continues to carry on active propaganda campaigns and sabotage acts against the Soviets. In the event of a future war, this force could lead the way to Ukrainian independence

This was a natural consequence of the country's history. The Ukraine had declared its independence from Russia in 1917 and in 1920 was subjugated by the Red Army. Since then, various secret Ukrainian anti-Communist movements have operated with the objective of liberating their country from Soviet rule.

Thus, because of a well-defined patriotic and political feeling, it was not astonishing that the Ukrainian people welcomed the German troops as liberators when they invaded Russia on 22 June 1941. Nor was it a strange circumstance that the deepest German penetration and the largest encirclements took place in Ukrainian territory.

Soldiers of Ukrainian nationality in the Soviet units defending the Ukrainian front deserted in large numbers at the sight of the approaching German Armies. They had no desire to fight in defense of the regime imposed on them. Entire units, headed by their commanding officers, surrendered without firing a single shot. In the great Battle of Kiev alone, fought in September 1941, more than 675,000 men, a large proportion of which were Ukrainians, surrendered to the Germans.

After the Battle of Kiev, the Germans found Marshal Kryvonos, Commander of the Military Region of Kiev, and 17 officers of his general staff dead. Ukrainian sources believe they were shot by the NKVD (Soviet Secret Police) on the suspicion that they were Ukrainian Nationalists ready to surrender the entire army group to the Germans.

Nightingale Battalion

The German High Command (OKH), aware of the nationalistic feelings among the Ukrainian people, created a special

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unit called the Nightingale Battalion manned by Ukrainian Nationalists. The German political administration, however, always in disagreement with the German Army authorities, bungled this mutual understanding which would have gained for Hitler the collaboration of a country of 40 million inhabitants and, more important, the security of his rear area.

General Heinz Guderian confirms in his *Memoirs* the favorable reception tendered the Germans by the Ukrainians and the subsequent deterioration of the good relations between the two, when he says:

It is a pity that the friendly attitude of the Ukrainian people toward the Germans lasted only under the benevolent military administration. The so-called 'Reich Commissars' did a good job in destroying in a short time the friendly attitude of the Ukrainians toward the Germans, and prepared the ground for the rebel or partisan struggle.

On 30 June 1941, scarcely one week after the invasion started, the Ukrainian people liberated the city of Lvov and announced over the radio the restoration of their national independence. This surprised the German politicians who ordered that the members of the recently formed Ukrainian national government be arrested and confined in various concentration camps.

This action served as a warning that the German "liberators" were not going to recognize their independence—they were merely new oppressors.

Thus, in 1941 the first anti-German guerrilla bands were formed and the Organization of Ukrainian Nationalists came into being. Finally, on 14 October 1942 the small detachments of guerrilla fighters were organized under one single command, taking the name of *Ukrainska Povstancha Armia (UPA)*, Ukrainian Guerrilla Army.

The Ukrainian resistance movement had the following missions:

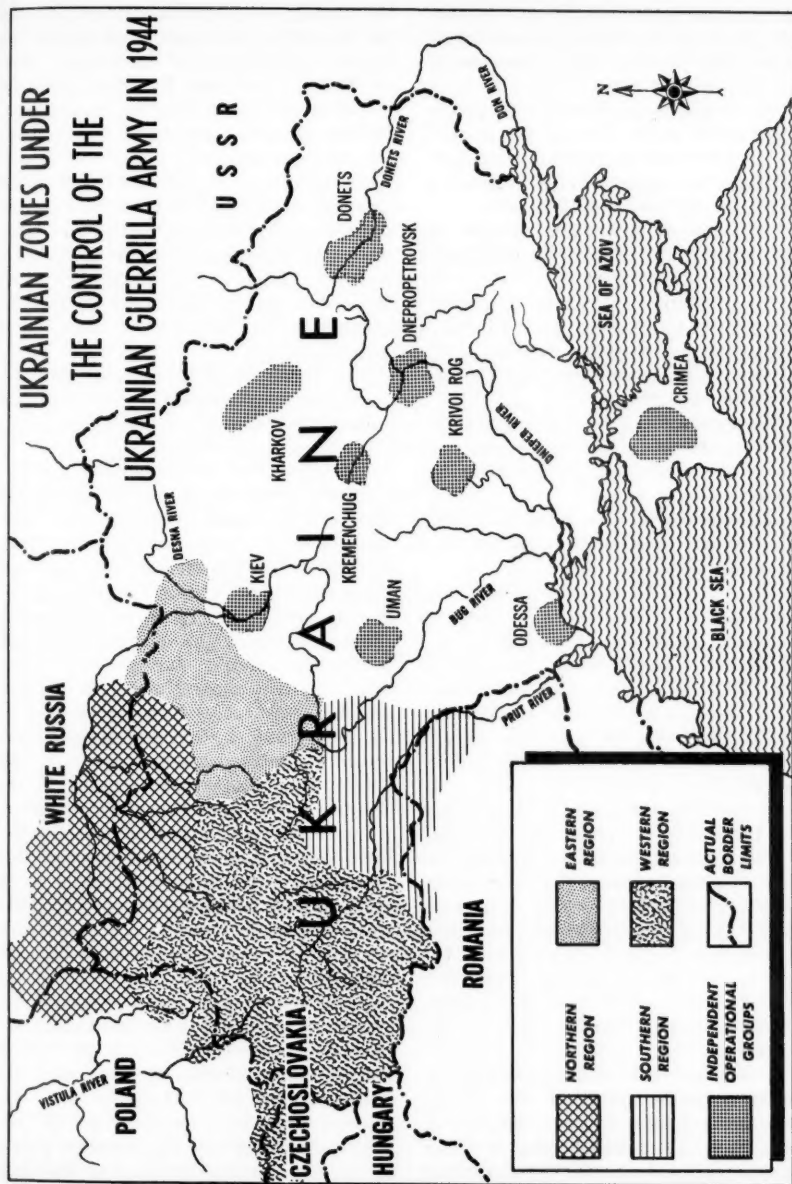


Figure 1.

1. To organize politically and militarily the mass of the Ukrainian population, and reorient them to oppose the new invader.

2. To organize a network of revolutionary forces in the Ukraine and instruct them in anti-German sabotage (disobedience to German orders and instruction in self-defense against the Gestapo).

3. To organize campaigns against the forced employment of laborers in German agriculture and industry.

4. To organize activities to prevent grain exports to Germany and to instruct the people in how to hide provisions, clothing, and other goods from the German requisitioning patrols.

5. To organize an information and propaganda campaign to expose the true purposes of the Nazis and Bolsheviks in the Ukraine.

6. To organize schools to teach clandestine resistance procedures to political and military leaders.

7. To collect arms, ammunition, and other military equipment to be used by the future Ukrainian armed forces.

8. To clear the Ukrainian territory of Bolshevik secret agents, who under various guises were able to join the German agencies, including the Gestapo, to help the Germans destroy the Ukrainian resistance.

Reinforced by the transfer of members from the police forces of the principal Ukrainian cities and other sources, the UPA promptly acquired an unexpected capability for combat action. Numerous contingents of Ukrainian troops which had deserted the Red Army joined the UPA, as well as contingents from other traditionally anti-Communist nationalities, such as Georgians, Tartars, Azerbaijani, and Turki.

The German reaction was not slow in appearing. In the spring of 1943 bloody battles were fought in the vicinities of Sarny, Stolin, and Volodymirz, in all of which the UPA succeeded in disrupting

the German support organizations. Violent guerrilla attacks followed against the concentration camps of Kremenets, Dubno, Kovel, Lutsk, and Kyvertsi, which resulted in the liberation of political prisoners who promptly joined and strengthened the guerrilla ranks.

By the summer of 1943 the anti-German campaign was in full swing. The Germans controlled only the large cities and large military installations. Even strongly guarded German movements were restricted to daytime and were always vulnerable to sabotage and direct attack from guerrillas.

The Ukrainian people accepted the UPA government and supported it actively and voluntarily with money and goods.

Notable Accomplishments

In May 1943 the Ukrainian guerrillas ambushed and killed the German SA Commander Victor Lutze and his escort, an incident which the German press played down referring to it as a "traffic accident." During 1943 the Ukrainian guerrillas fought successfully in a series of pitched battles. At Volyn in July 1943 an attack of a mixed German-Hungarian division was repelled successfully by guerrillas. In May 1944 a German division was forced to retreat after a battle in the Chorny Lis (Black Forest) region of the Stanislav province. In July 1944 the guerrillas repelled the attack of two German divisions against UPA positions at Lopata Hill. A 10-day fight, from 6 to 16 July, between Skole and Bolejiv, climaxed this series of battles and resulted in heavy losses to the attacking German-Hungarian division.

From this moment on, in view of the crumbling German front in Russia, the Germans changed their political tactics and sought to coordinate anti-Soviet actions with the UPA. However, the UPA rejected such negotiations. The German plan failed, and the anti-German period of the Ukrainian guerrilla war ended. It

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should be noted that during this period (1941-44) there was little activity of Red guerrillas in the Ukraine, because the German forces, as well as the UPA, had chased them out of the region.

The most serious Red guerrilla attempt to penetrate the Ukrainian region was made under the leadership of the Soviet General Kovpak. The force came from

complete annihilation. Only 700 men succeeded in escaping from the UPA attacks. They returned to the Soviet lines exhausted and unable to gain sympathizers among the Ukrainian people.

UPA Organization in 1944

By the end of the German occupation it is estimated that the UPA had about

GENERAL ORGANIZATION OF THE UKRAINIAN GUERRILLA ARMY—1944

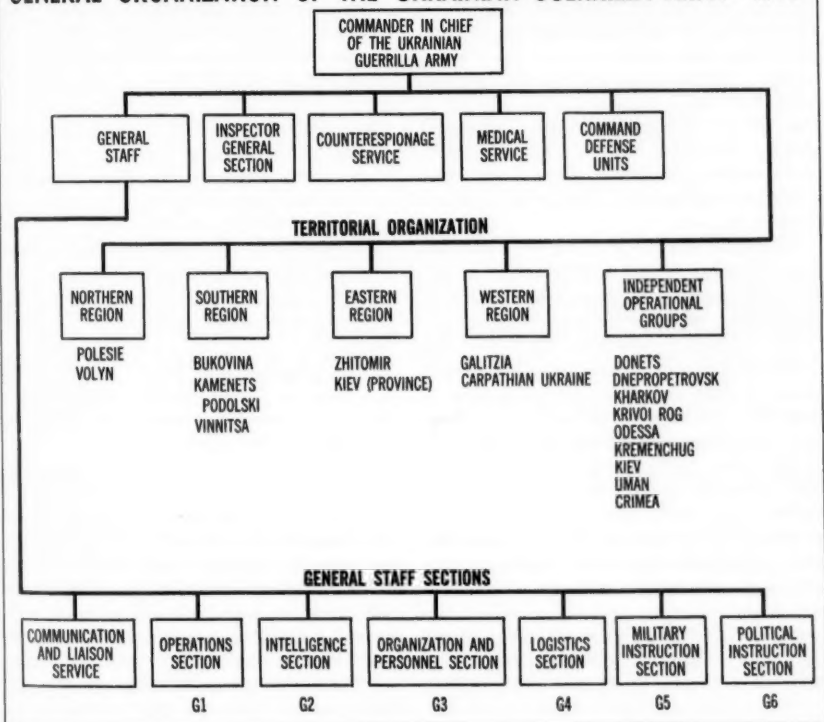


Figure 2.

White Russia after crossing the Pripiet River and headed toward Galitzia with the intention of reaching the Carpathian Mountains. But the village militia and the regular units of the UPA pursued and harassed them to the point of almost

200,000 armed guerrillas organized in units assigned to four territorial operational regions and to a series of independent operational groups. (See Figure 2.)

These regions were:

- The Northern Region, comprising the

province of Polesie and the northern part of the Volyn province.

- The Southern Region, formed by the northern part of Bukovina and the provinces of Kamenets Podolski and Vinnitsa.

- The Eastern Region, formed by the northern forest sectors of Kiev and Zhitomir.

- The Western Region, the best organized of all, comprising the provinces of Galitzia and the Carpathian Ukraine (sectors of Lvov, Ternopol, Stanislav, Chernovtsy, Drogobych, Przemysl, Lemkischyna, and Jolm).

The independent operational groups carried on their activities with success in the Donets River Basin, in Dnepropetrovsk, Kharkov, Krivoi Rog, Odessa, Kremenchug, the city of Kiev, Uman, and other Ukrainian cities and in the Crimean Peninsula.

Each region was subdivided into military districts, each consisting of a determined number of guerrillas formed in companies, battalions, and regiments.

The tactical operational unit was the company. Only in special situations would three or four companies unite to form a battalion, or two or three battalions to form a regiment. Battalions and regiments were formed only on personal orders from the commander of the military district who would generally assume command of the larger unit thus formed. The most able and competent company commanders were assigned as battalion commanders.

Only in exceptional defensive situations were the battalions allowed to join on their own accord if it was not possible to obtain orders or the consent of the district commander. This was rare because the command posts of the military districts were mobile and were continuously supervising the situation where danger was the greatest.

The company organization (Figure 3) was not rigid, but generally followed one of these two types:

1. The *light type* company consisting of 168 men armed with rifles, light machineguns, submachineguns, hand grenades, and demolition materials. Its principal mission was to effect hit-and-run raids. When an engagement against tanks was anticipated, the companies were reinforced with antitank rifle (*panzerbusche* 43, 88-mm bazooka) teams and antitank bazooka teams.

The company was organized in the triangular system (three platoons of three squads each) but the strength of the squads was flexible. The rifle platoons were equipped with 50-mm light mortars.

2. The *heavy type* company consisted of about 186 men, its organization also following the triangular concept. The armament was similar to the light company, but it was reinforced by a three-piece heavy machinegun platoon, and a three-piece 82-mm mortar platoon. The missions of these companies were the attack of important areas, the defense of certain objectives, and open battle against enemy forces.

Mounted guerrillas fought in the Northern Region. They formed special heavy squadrons sometimes equipped with light artillery.

Artillery was used only on rare occasions and then almost never organically, for the cannon constituted a great hazard for the guerrilla fighter. It is a heavy crew-served weapon whose characteristics of employment, even for the light mountain type, are not readily adaptable to guerrilla warfare. The gun fixes the guerrilla fighter activities, minimizes their mobility and speed, and, unless it is of the mountain type, ties the fighters to the roads, giving the enemy a chance for pursuit.

The guerrilla fighter, tied to this crew-served weapon, cannot keep close tab on the situation and is not aware of danger until it is too late to avoid defeat. This happened to the Communist guerrillas under General Kovpak in their fight against

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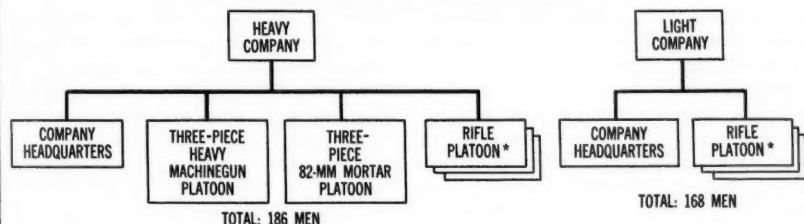
the UPA forces. Guerrillas preferred mortars and made good use of so-called "potential artillery." Groups of infantry-artillery would seize the enemy guns and use them against their former owners in the same engagement. The captured guns that were retained were used only in the defense of strong points and to train the potential artillerymen in the use of the weapon.

It is evident that had recoilless rifles been available at that time they would have been the "artillery of the guerrillas."

The seizure of weapons and ammunition was a permanent objective of the Ukrainian guerrillas, inasmuch as they had no outside help whatsoever and depended entirely on their own resources. Thus, during the German occupation period (1941-44) the German weapons and those of their allies were widely used by the UPA. During the Soviet occupation period, starting in mid-1944, they used Russian weapons almost exclusively.

In addition to the units already described, which might be called "regular"

TYPES OF ORGANIZATIONS OF THE INFANTRY-GUERRILLA COMPANIES OF THE UKRAINIAN GUERRILLA ARMY—1944



* THE RIFLE PLATOON WAS ORGANIZED FOLLOWING THE TRIANGULAR CONCEPT, THREE SQUADS OF 12 TO 15 MEN

Figure 3.

The UPA forces considered light automatic weapons best suited to guerrilla tactics. The most popular among these was the submachinegun due to its easy handling and firepower which made it the most powerful shock element in ambush and close combat. The standard hand grenade of the German and Soviet Armies, as well as those manufactured by the guerrillas themselves, were also favorite weapons. The efficient German *panzerfaust* and the *panzerbusche 43* were used, as well as a variety of antitank mines.

The source of armament for these forces was the German and Soviet arsenals seized in raids and major engagements.

within the irregularity of guerrilla organizations, self-defense detachments or village militia existed for the protection of small towns and villages. They were particularly effective at night against German and Soviet foraging parties and raids. This technique, which arose spontaneously in the Ukraine, also had been practiced in China during the Japanese occupation, and later appeared in Indochina between the French and the Vietnamese. Thus, the "regular" UPA troops were something like the Indochinese *Chulic*, while the Ukrainian village militia was similar to the *Dan-Quan* of Vietnam.

The Commander in Chief of the UPA

was assisted by a general staff with an operations section, intelligence section, organization and personnel section, logistics section, military instruction section, and political instruction section. (See Figure 2.)

The *operations section* planned tactical operations; coordinating them by means of general instructions or concrete orders; planned and directed the politically and strategically important raids; evaluated the general situation; and prepared military maps and sketches. Officers of this section were attached to each regional command so they could develop the plans of action on the ground, and, at the same time, direct local large-scale operations. When the mission required the commitment of personnel of other regional commands, the organization and direction of the forces was a responsibility of the general staff.

The *intelligence section* had over-all direction of the intelligence and counterintelligence effort. The collection of information was of primary importance for the movement of the guerrillas. The guerrillas had the backing of the civilian population in these operations. The intelligence system was so effective that as soon as the German troops and Soviet guerrillas started any operation, the *UPA* General Staff knew of their course of action and their strength. The cooperation of the civilian population is *conditio sine qua non* for guerrilla operations.

The *organization and personnel section* was in charge of preparing the tables of organization, of personnel replacement, of operating a roster of guerrilla fighters, and of the mobilization of military regions.

The *logistics section* had the difficult and important task of supplying food, ammunition, and clothing. Its mission included also the repair and maintenance of all materiel. In these tasks the cooperation of the people was essential. This section also was in charge of the estab-

lishment of large subterranean supply storage bunkers, four to 10 meters underground, facilitating the problem of supply during the winter.

In combat the *UPA* guerrillas wore military uniforms and their leaders wore distinctive insignia, such as the Ukrainian trident. In other words, they conformed to the laws and rules of land warfare and normally would have been considered regular troops—a fact ignored most of the time by both the Soviets and Germans.

The *military instruction section* was in charge of writing directives and manuals for the cadre schools and for the military instruction therein. The problem of organizing competent cadre (officers and noncommissioned officers) was critical due to the growth of the *UPA* and the consequent growing need for better and larger cadres. The section was in charge of two officers' schools which operated in the Northern and Western Regions. There were noncommissioned officer schools in every military district. The military instructors for these schools were Ukrainian military men who had pursued their military careers in the armies of Poland, Czechoslovakia, Romania, and Russia; from the cadres organized in Germany before the war (cadres from the Nightingale Battalion); and the old leaders of the Ukrainian National Army of 1917-22.

In addition to the actual military instruction, the section was in charge of editing the directives, manuals, and tactical regulations of the *UPA*. Among these works there is one deserving special mention: *The Practical Manual of Guerrilla Warfare*, a 364-page volume of tactical concepts for these forces.

The *political instruction section* (psychological action) had one of the most important missions. Because the *UPA* depended strictly on voluntary enlistments, it had to win the good will of its people as well as that of the people of foreign countries. Thus, it was necessary to have a psychological warfare apparatus to raise

the morale and political standards of its men and make the UPA a strong political force. To accomplish this, two official tracts were published and circulated among guerrillas and civilians alike: *The Povstanets (The Guerrilla Fighter)* and the excellent review *Do Zbroi (To Arms)*. These supplemented the clandestine press of the Ukrainian movement for national liberation which published more than 20 titles. They also operated several clandestine radio stations which broadcast Ukrainian propaganda and anti-German and anti-Soviet counterpropaganda to the Ukrainian people and the peoples of subjugated neighboring countries. This section also was in charge of liaison with other Ukrainian political organizations, particularly with the Organization of Ukrainian Nationalists.

An underground *communication and liaison service*—which used the most varied communication means imaginable, ranging from technical equipment to foot messengers—was operated by the general staff in addition to the aforementioned activities.

During the German occupation the organization of a central technical liaison team was started but was not completed until the beginning of the Soviet occupation in 1944. Time needed to train specialists and to assemble equipment, which was obtained mainly from the enemy or built locally, prolonged the organization.

In those areas not occupied by the enemy (during the German occupation), Ukrainian forces communicated over existing conventional telephone and telegraph lines by codes or prearranged messages. They sent messages in the clear only to give orders calling for immediate action. The messenger service, whether on foot, mounted, or motorized, was organized in such a way as to ensure delivery of messages to the UPA headquarters within 24 hours and to the regional commands within 12 hours. A permanent sys-

tem of relay couriers was operated regularly for this purpose.

The combat units (companies, battalions) in the field used the conventional communications means employed by regular armies—low-power radios (walkie-talkies), and visual signals (semaphores, flags, and panels).

The UPA Headquarters had under its direct command a headquarters security force (generally a reinforced company), a medical service, and a counterespionage service.

The *medical service* (Ukrainian Red Cross) labored under critical conditions due to its precarious means of evacuation and the lack of security in the rear area which forced the field hospitals as well as the recuperation centers to operate entirely clandestinely. Furthermore, medical supply was sporadic and dependent upon captured enemy materiel or contributions by generous civilians at great personal sacrifice. For this reason the German and Soviet ambulances and hospitals were favorite targets for the UPA groups as sources of supplies. However, they were careful not to disturb the welfare of wounded personnel.

Another problem the medical service faced was the recruiting and training of specialists. Generally speaking, the UPA volunteers were reluctant at first to serve in these noncombat units. The positions were filled by women and elderly men. In due time the importance of this service became evident and the number of volunteers increased. The enemy never recognized the Ukrainian Red Cross, and its posts were attacked and looted as any ordinary military objective. Thus, the UPA aid men became active combat soldiers.

Nursing schools were established for men and women, and special textbooks were prepared for them. Due to the shortage of drugs and patent medicines, medicinal herbs were widely used. These were gathered by civilians, particularly school

children, for the UPA groups. The medical service published a small manual called *Medical Plants and Their Use* which was used by all echelons of the medical service in the fighting forces and also by the civilian population.

The lowest medical service echelon was the aid man in each guerrilla squad. Next in line was the company surgeon whose mission was to supervise first aid treatment, to administer emergency treatment, and to dispense morphine injections, when necessary. Serious cases were taken to camouflaged special centers and clandestine laboratories where they received final treatment to include surgical operations. The battalion surgeon was responsible for these clandestine centers and administered the treatment and performed the operations.

The Ukrainian Red Cross also had to help the population of the free zones over which the occupying force had no control. This was an additional strain on the overtaxed medical service. Thus, the service was split into two divisions: a civilian division which operated among the civilian population, and eventually supported the combat units when these were engaged in combat in its zone of responsibility, and a military division which operated exclusively with the UPA troops.

The security or counterespionage of the UPA was another important service whose mission was to uncover the Communist and Nazi agents infiltrated through the Ukrainian lines. The Communists, in particular, sent secret agents to obtain exact information concerning Ukrainian strength and armament and logistic bases, as well as information about their contacts with the Ukrainian civilians. It was a difficult task to fight these infiltrators, because Soviet agents were excellently trained and it was fairly easy to disguise themselves as Ukrainians or refugees of various nationalities who had escaped from prison camps. However, the counterespionage service of the UPA was

successful by virtue of effective countermeasures and in spite of the refined and cunning methods employed by the enemy espionage agents.

Also operating directly under higher headquarters were the inspecting officers, a group of active officers whose mission was to control the UPA activities in the entire territory where the guerrillas operated.

The regional staffs followed the organizational pattern of the general staff, and had similar sections and services, but operated with fewer personnel. The military district staffs did not have inspecting officers and the various sections operated with even fewer people.

With this general organization the UPA faced the new occupation of their territory by Soviet troops and administration. It is noteworthy to mention that the Germans—who up to this moment had called the Ukrainian guerrillas by such epithets as "Bolshevik spies," "bandits," and "criminals"—now reversed their propaganda line and started calling the Ukrainian guerrillas "heroes of the anti-Bolshevik struggle" and "Ukrainian freedom fighters." The Soviet propaganda began to refer to them as "traitors," "Fascist Nationalists," and "Bandera's murderers" (named after the Ukrainian leader, Steban Bandera, who was murdered in Munich on 15 October 1959 presumably by Kremlin agents).

Anti-Soviet Activities

As soon as the German troops were forced by the Soviet offensives to withdraw from the Ukrainian territory, the UPA took advantage of the situation and collected all the materiel and equipment abandoned in their withdrawal. Thus, when the Communist Armies entered the Ukraine, they met a strongly organized and well-supplied resistance.

It did not take long for the Soviet administration to start its usual purges of the "people's enemy" and to make mass

deportations of Ukrainians to far-off Siberia. The UPA reacted with a series of raids against Soviet installations. The first battle of importance against the Red forces occurred in the winter of 1944 with the ambush against Marshal Vatutin and his powerful escort which included armored vehicles. It was in this battle that Marshal Vatutin was fatally wounded. Unfortunately, the Northern Region Commander of the UPA and his Chief of Staff also lost their lives in the battle. Soviet newspapers suppressed the facts, and Marshal Vatutin's death appears officially in many professional and civilian publications, Soviet and even some Western, to have been due to "wounds received at the battlefield."

After replacing the regular Soviet troops—who appeared to be lukewarm to, or even sympathizers of, the Ukrainian guerrillas—with NKVD selected personnel, the Soviets launched a series of offensives. The first of these was commanded by the "Ukrainian" Minister of Interior, Lieutenant General Ryassny, under the direct supervision of the Ukrainian "Premier," "General" Nikita Khrushchev. The Soviet propaganda ministry announced the end of this "greatly successful" offensive in October 1945, and declared that it had demolished the "resistance of the Ukrainian Fascists." On 31 October, five battalions of the UPA attacked and captured the city of Stanislaw, capital of the province of the same name, clearly demonstrating that their resistance was alive and acting with relative impunity.

When a second Soviet offensive was launched, preparatory measures designed to ensure the success of the campaign included such activities as setting forest fires, forced conscription by territorial quotas, contamination of water, sale in the "black market" of medicines contaminated with typhus, and forced evacuation of populated zones. During this offensive, a UPA detachment set an ambush near

the railroad station at Tiaziv in Stanislaw province, where the commander, General Moskalenko, and his staff were due to arrive on 3 May 1946. The general's armored car was hit by an antitank shell killing all its occupants.

Efforts to Crush UPA

In spite of the official declaration of "victory" by the Soviets, the Ukrainian guerrillas continued their activities. On 29 March 1947, in another spectacular ambush, the UPA killed Poland's Vice Minister of War, General Swierczewski, who had achieved fame as "General Walter" during the Spanish Civil War at the head of the international brigades.

Impressed by this act, the Soviet Union, Poland, and Czechoslovakia (whose Minister of Interior was Communist) signed a tripartite pact on 12 May 1947 calling for the joint action of the armies of the three countries to complete destruction of the UPA. Shortly thereafter, joint operations were launched with units in division strength comprising Polish infantry, Czechoslovakian mountain troops, Red partisans, Soviet armored troops, infantry of the NKVD, paratrooper units, and Soviet Air Forces, plus Hungarian and Romanian units made up of gendarmes and frontier guards.

This concerted attack, conducted at full speed and on a wide front, could not wipe out the UPA resistance. Their forces dispersed into small detachments and avoided the open combat the Communists sought. The guerrilla forces took refuge in the mountain and forest bunkers, and sometimes waited there for months until the enemy pressure subsided. Afterward, the UPA Command sent groups of men on propaganda missions to Eastern European countries—even to Russia—to prove the existence of the Ukrainian resistance. Some of these groups were able to cross the "Iron Curtain" to freedom in Western Europe.

However, in Western Ukraine (Galit-

zia) the struggle between the *UPA* and the tripartite pact forces continued. On 5 March 1950, near the town of Bilohorsha, the commander of the *UPA*, General Roman Shujévych, better known by his cover name of "Tarás Chuprynka," was killed in action. He had served as Commander in Chief of the *UPA* for nine years.

From then on, in view of the attrition of the fighting units, it was decided to shift the emphasis from active combat to psychological warfare, and the *UPA* went underground. The fundamental objectives of the struggle remained the same, only the means and methods were altered. The *UPA* groups were scattered and absorbed by clandestine armed organizations which had the following missions:

1. To maintain and develop the subversive, clandestine organization in all Ukrainian territory occupied by the Soviet Union.

2. To maintain and strengthen the Ukrainian people's ideological and moral status, disseminating the ideals of liberty and independence, and fostering sabotage and even raids against determined Soviet objectives.

3. To publicize the Ukrainian revolutionary spirit and spread the idea of anti-Communist revolution to all the countries subjugated by the USSR.

4. To make known to the Free World the fight that the Ukrainian people—particularly their armed organization, the *UPA*—had sustained against the Red occupation and the Communist oppression,

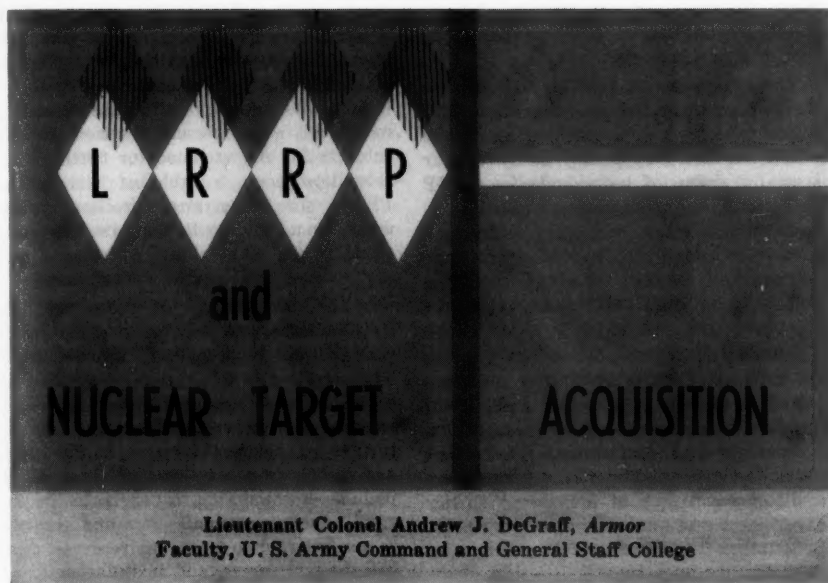
and the possibilities offered to the Western strategists in another World War.

Conclusions

This is the present situation of the Ukrainian resistance movement. It has not ceased to carry on active propaganda campaigns and unexpected sabotage acts against the Soviet administration. This is the reason for the brief "police" reports which appear periodically in the Communist Ukrainian press mentioning the capture of "reactionary elements" and such news as trials and death sentences, such as the ones which occurred in 1959 in the cities of Kiev and Rovno. This is also the reason the combined troops of Soviet Russia, Poland, and Czechoslovakia "maneuver" in the Carpathian Mountains, in the western areas of Slovakia, and other regions. Their true objective is to flush out and wipe out the *UPA* guerrilla fighters who still perform sabotage and engage in propaganda activities as attested by the patriotic demonstrations which took place in March 1959 in the cities of Mukachevo, Uzhgorod, and Just.

The resistance movement also carries on passive resistance activity among the people with the purpose of sabotaging and retarding the Communist production program. They have perfected alibis to justify the feigned sickness of laborers, waste of time at plants and collective farms, low production, and demands for more personnel.

The *UPA* represents a potential force to resume guerrilla warfare in the event of another war.



THE rifleman fires his piece at a target he can see or sense. As we progress up the scale of weapons in caliber, range, and deadliness more factors influence the decision to fire and the effects. Nuclear weapons present the extreme in requirements for timely and accurate information. Unlike the infantryman, the commander and his staff charged with exercising the responsibilities of nuclear weapons cannot fire indiscriminately and move on. The need for immediate, workable procedures for nuclear target acquisition transcends almost every other combat problem in the Army today. Battlefield survival and victory in war are the stakes. We cannot settle for less.

Field exercises in Europe during the

past few years partially reveal the thought and activity going into the search for answers to the over-all problem. In February 1958, the 5th US Corps, participating in *Sabre-Hawk*, conducted tests of techniques involving the use of Long-Range Reconnaissance Patrols (LRRP's) for the collection of intelligence, primarily that pertaining to nuclear target acquisition. This was not the first attempt to exploit the capabilities of ground reconnaissance in a target acquisition role. The 7th Corps employed stay-behind patrols in Exercise *War-Hawk* held in December 1956. The 5th Corps effort represented an improved concept of operational employment as well as the first full-scale attempt to select, organize, and train per-

Nuclear weapons intensify the problem of target acquisition. Their potential influence on the outcome of battle demands workable procedures for timely, accurate, and rapidly transmitted information

sonnel in the special techniques of long-range reconnaissance prior to participation in a field exercise.

The experience of 5th Corps in *Sabre-Hawk* pointed up the need for an organization to carry out long-range reconnaissance. It also emphasized the need for special training of individuals for LRRP operations, improved communications, refinement of entry and exit techniques, precise planning for use of long-range patrols, and detailed intrastaff coordination on those levels controlling long-range reconnaissance.

Subsequent to *Sabre-Hawk* but prior to the 1959 exercises, a 5th Corps study resulted in specific conclusions and recommendations concerning the organization, equipment, and employment of combat surveillance units. These conclusions were a direct outgrowth of 5th Corps earlier experiences and served as a starting point for further field testing of long-range reconnaissance operations.

In two separate field exercises held in Germany in 1959, 5th and 7th Corps experimented further with long-range reconnaissance and target acquisition. The test reports suggest that significant progress was made toward the development of a suitable organization for combat surveillance and improved techniques of operational employment. However, there still remained areas for further refinement and improvement in the selection and training of personnel, suitability of communication equipment and procedures, and capabilities of Army aviation.

Recently, the Seventh United States

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Army conducted a winter maneuver, *FTX Winter Shield*, wherein one of the primary objectives was again the perfection of target acquisition methods. The final report does not make clear the extent to which this objective was realized. Among subjects the report listed for further consideration were a table of distribution (TD) for long-range reconnaissance units, an addendum to the Army training directive on "stay-behind" operations, and sky cavalry for combat surveillance.

Within the context of these field activities, what, precisely, are we seeking in this twilight area of target acquisition? The objective is to develop a reliable and consistent intelligence system capable of locating and reporting transient nuclear targets of tactical interest to the field army. The scope of the acquisition effort includes a capability to penetrate the enemy's counterreconnaissance and security screen in order to locate his reserves, combat support forces, and installations; and to obtain and report timely information in order to permit the effective engagement of appropriate targets with nuclear weapons.

Current target acquisition capabilities and new developments in electronics and drone aviation provide a logical base on which to devise an organization for battlefield surveillance and target acquisition.

Current Capabilities

Considerable potential means to provide an effective target acquisition capability exists in the field army. Unfortunately, this potential has not always produced the vital and timely intelligence our tactical operations demand. Nonetheless, the cumulative effort of the following sources and agencies are far from insignificant. With the addition of the proposed target acquisition organization, the capabilities of the field army intelligence system may become sufficient to meet the increasing demand for swift, accurate reporting of nuclear target information.

Intelligence officers.—There is a growing trend among intelligence officers toward the use of less common techniques in search of nuclear target information. The practice of "war gaming the enemy" to determine his most likely dispositions, movements, and courses of action is an example of such techniques. Further refinement of this art, in concert with the efforts of other intelligence agencies working for the G2, could result in highly productive nuclear target intelligence. The judgment, experience, and reasoning ability of the G2 are determining factors in both the deduction process and the employment phase.

Electronic warfare units.—The procedures for integrating electronic warfare units into the information collecting system of the G2 are adequately set forth in the doctrine for employment of such units. It is sufficient here merely to point out two unique capabilities of electronic warfare units that can be especially useful to the G2.

First, the ability to confirm the presence of an enemy in a specific area by communications intelligence (COMINT) techniques; and second, the ability to establish and maintain radio communication, as a base station, with other intelligence agencies operating behind enemy lines.

Unconventional forces.—This category includes all clandestine elements operating in the immediate battle area. Such forces have a recognizable, but not always clearly definable, information gathering capability. Numerous intangibles and uncertainties associated with the employment of unconventional forces make this so. Under optimum conditions, their target acquisition potential may be said to approach that of conventional ground and sky cavalry units. The techniques of employment of unconventional forces in a target acquisition role are generally the same as for conventional forces, although the latter normally have the advantage of

better organization, training, and equipment.

Army and Air Force aviation.—The development of drone aircraft and more advanced types of electronics surveillance equipment, such as Side Looking Aerial Radar (SLAR), suggests the probability of a vastly increased potential for target acquisition by Army and Air Force aviation. The greatest significance of such future development lies in the all-weather capability that will accrue to reconnaissance aviation. The techniques of integrating Army and Air Force aviation into the G2's information collecting system are adequately described in present doctrine.

Ground and sky cavalry.—Conventional armored reconnaissance and sky cavalry potentially are the best units for battlefield surveillance and target acquisition of the combat organizations currently assigned to the field army. Depending on their state of training, the operational environment (particularly with respect to climate and terrain), and the strength of enemy counterreconnaissance measures, conventional armored cavalry may be able to execute missions approaching the optimum in production of nuclear target intelligence. One significant shortcoming of conventional cavalry is the relative ineffectiveness of such forces in a target acquisition role during retrograde operations. If the enemy possesses the initiative, it is normally beyond the capabilities of even the *best trained* cavalry to penetrate the enemy counterreconnaissance screen while simultaneously engaged in a delaying or covering force action. The introduction of sky cavalry may tend to relieve this condition providing such forces are trained, equipped, and capable of operating as target acquisition detachments in the manner described below.

A New Organization

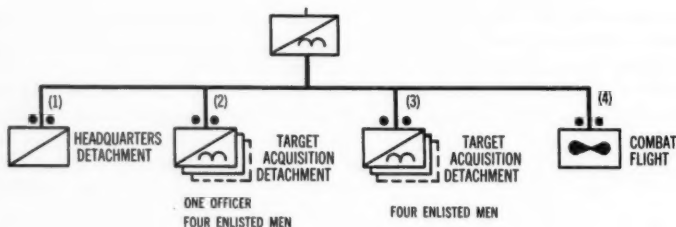
Target acquisition detachments (airborne).—This surveillance type organiza-

tion, previously mentioned, would be introduced into the field army's intelligence system for the sole purpose of acquiring precise and timely nuclear target information. It is visualized that the organization will be a unique corps of ground and sky-to-ground reconnaissance troops who, in cooperation with other agencies, will have a maximum capability for accomplishing the required level of target acquisition. The type of individual and unit in mind are best exemplified by the air-

of nuclear warfare contemplates. The requirement for a special target acquisition organization (completely separate and distinct from the commonly accepted intelligence agencies) appears to be incapable, and follows from the simple statement of fact that the Army to date has *not* been able to satisfy its needs for nuclear target information in any other way.

The organizational and operational concepts that follow parallel certain conclu-

TARGET ACQUISITION COMPANY (AIRBORNE)



(1) COMMAND, ADMINISTRATION, MAINTENANCE, SUPPLY, MESSING

(2) EMPLOYED AT CORPS AND ARMY LEVELS; ESTIMATED 20 DETACHMENTS PER CORPS

(3) EMPLOYED AT DIVISION LEVEL ON THE BASIS OF APPROXIMATELY 10 DETACHMENTS PER DIVISION

(4) EQUIPPED WITH FIXED-WING AND HELICOPTER AIRCRAFT FOR ENTRY AND EXIT TRANSPORT OF TARGET ACQUISITION DETACHMENTS

borne pathfinder and ranger, and by the airborne pathfinder team. These persons, and others of equal knowledge and skill in the art of long-range reconnaissance, must be made available to the field army in sufficient numbers to man suitable table of distribution forces.

The emphasis is on a separate, elite, highly trained corps of target acquisition specialists who will have that full capability for battlefield surveillance and target acquisition which the Army's doctrine

sions of various unclassified studies and reports. These similarities are acknowledged because they tend both to corroborate and accentuate the areas in which further development of techniques is required if the Army is to realize its total nuclear capability. The following observations pertain to the organization, training, operations, and communications of the proposed target acquisition detachment (airborne).

The detachments should be table of dis-

tribution organizations, comprised of personnel from the field army at large but *not* levied against the TOE of other assigned units. The expedient of using organic army, corps, and division troops on an as-available-basis to organize non-TD target acquisition detachments is neither efficient nor economical. They should be organized at field army level to ensure uniformity in selection of personnel, training, and operational procedures. Additionally, the field army is best suited to provide both the special administrative support and communications required for LRRP operations.

Qualifications

The manning tables for target acquisition detachments should specify that all assigned personnel will be fully qualified airborne ranger specialists, capable of independent action behind enemy lines under the most hazardous and trying conditions. It is apparent that personnel without these high qualifications would tend to degrade the performance of the detachments in an operational environment.

Target acquisition detachments (airborne) should be small cellular type units, capable of sustained operations within and behind enemy formations for a period of three to five days. The desirability of a parent organization for command and administrative support, such as a target acquisition company (airborne), should be considered.

The detachments should be operationally controlled at army, corps, and division levels where suitable nuclear delivery means also exist. An estimated 10 detachments at division level and a proportionate number at higher headquarters would be sufficient to provide full surveillance coverage within respective areas of influence.

When conditions warrant, detachments may be attached to existing military in-

telligence organizations, or operate directly under the G2. The parent TD organization would be operationally controlled at field army level.

Training

Training should be as rigorous and specialized as that received by airborne pathfinder teams; it should emphasize techniques of long-range penetration, develop skill in locating and evaluating potential nuclear targets, put particular stress on communicating and reporting, and thoroughly indoctrinate each individual in the art of survival behind enemy lines. (The 5th US Corps outlined such a program for developing these advanced skills in its training directive preceding *Sabre-Hawk*.)

Organization alone does not provide the entire solution. The concepts for employment of target acquisition detachments (airborne) require additional qualitative analysis and field test before final acceptance. For example, operational control of the target acquisition detachment (airborne) should be under the G2 because this, in principle, is an intelligence agency in its purest form. This concept in no way precludes or minimizes the continuing requirement for detailed intrastaff coordination.

Moving Targets

Basic type missions should be directed toward specific point reconnaissance and surveillance, as opposed to either route or area surveillance. This is in keeping with our experience which has shown that a moving enemy (ground) target has a relatively low probability of being effectively engaged by nuclear weapons. True, we have no wartime experience in this matter, but complex channels of control, unreliable communications, ponderous organization, and difficulties attendant to obtaining a decision to fire diminish our chances for successful engagement of moving targets today. Experience also tends

to show that a moving reconnaissance unit has an even lower probability of both accomplishing the detection and reporting of nuclear targets, and assuring its own survival.

Planning for operations should consider all possible means of correlating the efforts of target acquisition detachments (airborne) with other intelligence agencies working for G2. In this manner, target acquisition detachments can be introduced into those enemy areas where other sources of intelligence indicate a high assurance of successful long-range operations. The scattering of detachments behind enemy lines at random or according to a preset pattern has obvious disadvantages.

Planning also should visualize the general scheme of employment of target acquisition detachments (airborne) at least three to five days in advance of their contemplated use. The introduction of these detachments into enemy rear areas is a precision maneuver with little, if any, margin for error. The practice of "crash planning," sometimes indulged in by our headquarters, is entirely unacceptable in an operation in which success is significantly influenced by detailed and precise coordination and planning.

Exfiltration

Airborne or helicopterborne entry generally is preferable to ground infiltration in *offensive* operations. The influence of time and space factors plus the technical difficulties of overland penetration serve to point up the unreliability of ground infiltration, particularly in areas of heavy enemy security. Exfiltration of target acquisition detachments during offensive operations represents no problem as long as the momentum of advance is continued. Should the friendly forward movement be contained before target acquisition detachments are uncovered, then exfiltration should be carried out in the manner prescribed for retrograde operations.

Stay-behind patrols are preferable to other means of entry in *retrograde* operations. These have been used in the past in training exercises with some success. Target acquisition detachments must be exfiltrated by aerial means regardless of the aircraft attrition rate. It is clearly impractical to consider exfiltration by any other means such as "walk out." In the event that exfiltration cannot be accomplished, alternate plans involving linkup with special forces teams operating in the same area, or employment of escape and evasion techniques to elude capture, must be adopted.

Target acquisition detachments (airborne) should *not* be employed in other than their specialized role, in order not to exhaust their combat capability on less imperative missions.

Communications

Communications-wise, target acquisition detachments (airborne) should be equipped with a portable VHF radio with built-in power source, high reliability, and capable of transmitting by voice or CW (continuous wave) to a range of 50 miles. An automatic system of brief coded signals representing desired elements of information should be built into the transceiver, thus enabling the operator to type a message in clear text directly into the transceiver. The message would then be automatically encoded and transmitted over a set frequency to a base station where the above procedures would be reversed, and the message reproduced in clear text in teletype form. This technique, combined with a simple brevity code, would provide adequate security safeguards as well as the required speed of transmission for nuclear target intelligence.

Other electronic gear is essential to success. The detachments should be equipped with the latest type navigational aids and electronic surveillance devices. These must be simple to operate, rugged

in construction, lightweight, and self-powered.

New developments in the fields of electronic surveillance and drone aviation are not to be regarded lightly, for they may well outstrip in productive intelligence the more prosaic sources upon which we are forced to rely today. Nonetheless, one should not overlook the possible degrading effect of enemy countermeasures on these mechanical instruments. The extent to which this limitation is applicable cannot be precisely measured, since we lack full knowledge of our potential enemy's electronic countermeasure capabilities.

It appears to be both wise and prudent not to place paramount reliance on new electronics developments until their reliability is fully established under operational conditions.

Conclusions

Development of new organizations, concepts, and equipment is always painfully slow. There appear to be sound reasons why this is true. In the field of nuclear target acquisition we face a new and more compelling challenge. Urgency of solution of its many problems does not permit us an instant's delay. "Delay" is synonymous with "perish."

One of the most complex technological problems facing us today is in the field of target acquisition. Unless we can develop the means to determine and report rapidly the locations of suitable targets at ranges of many miles and with accuracies commensurate with the accuracy of our weapons, it may frequently be unprofitable to launch our long-range missiles against enemy forces.

The use of drone systems is one approach to the challenging problem of better target acquisition. . . . We seek a capability of determining more accurate range information for our fire support weapons. This could be in the form of an infrared device permitting every soldier to see in the dark; it could be in the form of a portable instrument permitting a soldier on a patrol to take a picture of an enemy target and transmit it back automatically and electromagnetically.

The target acquisition equipment we need must be accurate and light in weight—but most importantly it must work—every time! It must work in the tropics, the desert, and the arctic and in any weather, day or night. It must live in the military environment—with all that word implies: shock, vibration, mud, dust, deferred maintenance, and so forth. And it must perform, at least as well as today's equipment, in a radiation environment.

Equipment components must be capable of being mass produced—on a broad industrial base, using mechanized processes for high reliability and reasonable economy. . . .

Within the framework of future possible conflicts—whether engaged in all-out nuclear war or in putting down aggression with conventional weapons, Army combat troops must react faster, cover more ground, protect larger areas, disperse and regroup faster than ever before. At the heart of this mobility problem is one simple fact—the greater the speed of movement over all types of terrain, the greater the chances of tactical success.

Lieutenant General Arthur G. Trudeau



Lieutenant Colonel Frank B. Case, *Transportation Corps*
Headquarters, United States Army, Alaska

THE attempt to breach the heavily fortified Confederate line at Petersburg in July of 1864—one of history's few examples of the tactical employment of a mass destruction weapon—provides the basis for evaluating concepts for tactical employment of nuclear weapons. Major Raymond O. Miller, in "A Stupendous Failure," which appeared in the July 1960 *MILITARY REVIEW*, highlighted in two sentences the primary lesson of the Petersburg Crater for today's combat commanders. "Speed was the key to success at Petersburg, both in attack and defense," he noted. "The battle was won and lost with this key."

Grant's grim pursuit of Lee from the Wilderness to Cold Harbor had finally come to stalemate in the fortifications south of Petersburg. At 0445 on the morning of 30 July, four tons of powder, emplaced by Lieutenant Colonel Henry Pleasants' 48th Pennsylvania Veteran Volunteer Infantry, were exploded beneath the Confederate parapets opposite

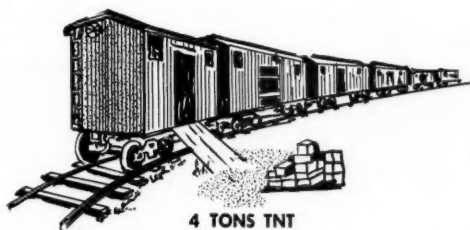
Burnside's 9th Corps. When the clods of earth, the cannon, and the bodies had tumbled back and the smoke and dust had cleared, 170 feet of the Confederate line had disappeared. For 200 yards on each side of the crater the men who manned the Confederate trenches had taken to their heels. Right in the middle of the impregnable defense system, Colonel Pleasants' mine had blown a gap nearly 500 yards wide, and all Burnside's corps had to do was march through briskly, take Cemetery Hill, and end the war. A tactical nuclear weapon could not have done more or have done it more effectively.

But the assault plans fell apart in a welter of forgotten details and inept leadership. While Meade was trying to get the attack rolling the Confederates were recovering. Infantry regiments were being reformed to seal the gap; artillery was brought into action. The situation grew worse by the minute. What could have been done easily at 0500 by 0600 was difficult. By 0700 the battle was already

The tactical nuclear weapon can be the key to victory in the flexible formations and free maneuver of the future battlefield. Successful exploitation of nuclear fires will depend upon doing simple things quickly

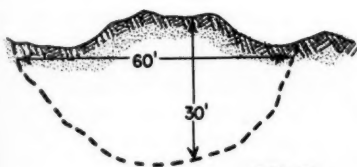
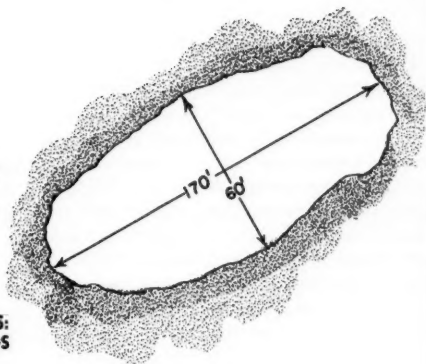
THE CRATER: VITAL STATISTICS

CHARGE:



4 TONS TNT

CRATER:

GAP IN
CONFEDERATE LINES:
APPROX. 350 YARDS

CASUALTIES:

ESTIMATED CONFEDERATE STRENGTH IN VICINITY GROUND ZERO: 300 KILLED: 278	FEDERAL CASUALTIES BY CONFEDERATE COUNTERATTACK: 4,400
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RESULTS: FAILURE

lost, although the slaughter went on until nearly noon.

In its environment, the 48th Pennsylvania's crater was a novel and radical order of firepower. The plan for the exploitation was good, but precious minutes were wasted while the Confederate Army was stunned and its lines lay open. The price of that waste was failure and another 10 months of bloody war. On tomorrow's battlefield, the opportunities created by nuclear fires also will be wasted if the exploitation is as tardy as Burnside's.

The tactical nuclear weapon cannot win battles alone.

Maneuver Force

The object of ground forces on the battlefield is to dominate the enemy, to enforce submission of the enemy to the will of the commander. The nuclear weapon does not dominate the enemy's will; by itself, the weapon merely destroys. Indeed, "fire kills," but if killing alone does not achieve the object of combat, Pétain's slogan can no more point the way to effective nuclear tactics than it did to sound strategy for prewar forces. Only maneuver elements can apply the sustained force against resistance which is the nature of domination, whether of terrain or of enemy troops. While the tactical as well as the strategic object of war is domination instead of extermination of the enemy, the ground maneuver force must gain the final ends of battle.

From time to time, of course, employment of nuclear weapons for destruction effects alone is desirable. Attack of enemy

reserves and rear installations, with the object of reducing the enemy's endurance in combat, are typical of nuclear employment for destruction effects. But the optimized role of the tactical nuclear weapon is creation of conditions under which the maneuver force can operate with freedom and facility. The weapon is uniquely capable of creating such conditions, of softening up the enemy as a whole by a furious blow on a single element. The special advantage of nuclear fire as preparation for maneuver lies in its shock effects, in the impact upon men and systems not destroyed outright.

While the nuclear weapon, whenever it is used, is the chief element of fire support in terms of explosive equivalent, its killing effects are localized in space and time. But the shock effects are generalized. Destruction wrought directly by the weapon alters the local balance of combat power by removing men and materiel from the action. Shock effects impair the function of the entire enemy force.

Nuclear attack peremptorily requires the staff of the defending forces to deal with the situation produced by the attack, at the expense of other combat tasks. The enemy must take positive measures to fill up the gap in his organization at just the moment when he is least able to determine what should be done. Destruction of the target force hinders collection of information. Observation and communications are degraded. Troops not killed outright are stunned and relatively ineffective for a considerable distance from ground zero.

Formations outside the range of primary effects are shaken, their responsiveness impaired by the evident fact that they may be a target for the next weapon. And the value of whatever measures the defender undertakes is weakened by the fact that his actions are reactions to the attacker's blow. The defender has lost the initiative and with it the morale advantage—which may prove decisive in nuclear combat, as it has in conventional fighting.

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Time Element

Deciding upon and executing defensive reactions to nuclear attack takes time. During the period of defensive reaction—the attacker's golden hour—the attacker can execute his exploitation with relative freedom and ease.

But the conditions favorable for exploiting maneuver do not endure. As the minutes pass after the nuclear detonation, shock effects on the enemy force also pass. The defensive command structure is knit up; support weapons are brought to bear; mobile forces refill the gap made by the nuclear strike; soldiers surviving in the target zone find themselves alive and look to their weapons, progressively regaining vision, initiative, and energy. When the attacker's golden hour is over, the enemy is restored as a fighting organism, a little fewer in numbers than before but ready to seize the initiative by countermaneuver against an opponent whose intentions are now declared.

How long is the favorable period for exploitation? How long does it take the defender to restore the functioning of his whole organism after nuclear attack on one of its parts? Present service school solutions frequently allow an hour and sometimes several hours after the nuclear preparation before launching the exploiting attack. Burnside's loss at the Crater suggests that such delay is intolerable. Experience on the nuclear battlefield, when it becomes available, will promptly define the tolerable limits of delay. Until practical experience is available, planning must be guided by analysis of hypothetical future combat situations. For example:

A United States division encounters an Aggressor division organized in battalion strong points. Each battalion position covers an area about four kilometers wide and two deep, and is composed of three company positions, two up and one back, each company occupying an area about 750 meters wide

and deep. Available US two-kiloton weapons will each destroy one company. If two weapons are used on one battalion, the battalion will be destroyed as an operating force.

Other Aggressor battalions are located some 2,000 meters from desired ground zero (DGZ) and will suffer little direct damage. However, emotional shock, individual automatic protective reactions, and communications interruptions, all increased by detonation of nuclear simulators over the adjacent battalions simultaneously with the nuclear attack and by communications jamming, will make them incapable of coordinated action for a quarter of an hour or so. If the attack is made during darkness, flash blindness will increase confusion.

Aggressor artillery observation will be hampered by dust and communications difficulties for at least 15 minutes. Aggressor division headquarters will require from 20 to 30 minutes to obtain reports from regiment, estimate the damage to the division position, and decide on the form of its reaction. Aggressor's armored and motorized counterattack force is eight kilometers from the forward edge of the battle area (FEBA) and can move to the FEBA in 30 minutes after receiving orders. Aggressor nuclear firing batteries can attack a short-range target within 15 minutes after receiving a fire mission.

Half an hour after nuclear attack on the target battalion, the Aggressor division will be recovering its responsiveness to the situation. By the end of the first hour Aggressor will be able to meet an exploiting maneuver force with a coordinated counterattack supported by nuclear fires, and the best chance for successful exploitation will have passed.

An hour, in this situation, appears to

be the limit of the poststrike period during which the US force must mount its exploiting attack, gain contact with the enemy, roll over the reduced resistance presented by the temporarily disrupted Aggressor division, and gain momentum for a followthrough which will rupture the entire Aggressor defensive configuration.

Only experience will show whether the optimum period for exploitation is an hour, half an hour, or an hour and a half. Certainly, all defensive commanders will use their best ingenuity to reduce the disrupting effects of nuclear strikes on their forces and to shorten the time needed to assess damage and reestablish the integrity of their positions. The optimum exploitation time available to attackers will be shortened as defensive commanders succeed in minimizing nuclear strike effects. In the most favorable case, the optimum exploitation time will be brief.

Automatic Execution

During the optimum exploitation time, the attacker must do many things. To accomplish them in the time available, exploitation plans must be clear and complete, poststrike decision-making processes must be simplified as far as possible, movement times to objectives must be cut to the minimum, and execution of maneuver must be as nearly automatic as possible.

The mission type order has its place in future war, but the initial phase of exploitation of tactical nuclear weapons is not that place. The prestrike position of every maneuver element of the assault echelon must be prescribed. Each route and alternate route to the objective must be defined and movement times calculated carefully. Conventional fire support must be preplanned to secure maximum prolongation of the shock effects of the nuclear strike on units adjacent to ground zero.

The go/no-go factors for the attack must be clearly stated so that subordinate

commanders can act decisively and in concert regardless of communications conditions. The purpose of each maneuver element on the objective must be clearly defined so that when communications are lost during the action—and some elements always will lose communications—the sense of the battle is not lost.

Whether or not to go with the exploiting maneuver is the primary decision. Poststrike analysis of the nuclear attack must not be allowed, through an excess of technique, to become poststrike paralysis. To the attacking commander the decisive fact will be that the weapon detonated reasonably near the enemy's position. When he knows this, he knows that the enemy has been hurt and that he holds a critical, although a brief and passing, advantage. He knows, in general, the locations and characteristics of the obstacles his maneuver forces must avoid. Poststrike analysis more technically refined can tell him little more that will help him. Accordingly, such strike analysis can be reduced to a go/no-go basis: if the weapon is a dud, the attack is suspended; if it detonates, the attack goes.

Advance Analysis

In a multiple-weapon preparation, the commander's calculation is more complex but his decision remains subject to advance analysis. In a two-weapon preparation, he may decide in advance to attack if one of the weapons detonates. In a three-weapon preparation, he may decide to suspend the attack if he has more than one dud. In each case, he can establish the significant facts and mount his exploitation within two or three minutes after time on target, while enemy command control, fire support, and reserve reactions are least effective.

The advantages of rapid poststrike decision processes can be nullified by tardy movement of maneuver elements to their objectives. Where possible, the attack should be initiated automatically upon ob-

servation of the nuclear detonations by commanders of maneuver elements. This should be accomplished to avoid the possibility of delays from communications interruptions, whether the result of normal operational difficulties or of enemy jamming.

In order to permit contact to be gained while the enemy reaction capability is at the minimum, prestrike positions of the exploiting forces should be as close as practicable to the enemy. If the exploiting force is mounted in armor and the terrain is reasonably trafficable, 15 minutes' time-distance should allow satisfaction of reasonable troop safety standards. If the assault force is not armored, greater chances must be taken. The time-distance to assault objectives should be controlling over ideal troop safety considerations. No purpose is served by saving two percent of a force from extreme-range effects of friendly weapons and thereby losing 15 percent to enemy fire in the subsequent attack.

If exploitation is executed so that it makes full use of the shock effects of nu-

clear fires on the total enemy organism, if nuclear preparation and follow-up ground attack with its conventional fire support are conducted as one sustained blow, the nuclear strike which destroys a battalion will lay open that battalion's entire parent force to quick and complete defeat.

Conclusion

In the flexible formations and free maneuver of the future battleground, successful exploitation of nuclear fires will depend upon doing simple things quickly. Casual staff work and command that lacks the edge of urgency will wait for the dust to settle before mounting exploiting attacks, and wars will go on to other springs—until, perhaps, we run out of springs. Sound, thorough staff work and hard command control will drive exploiting forces onto objectives in time to win battles that will win wars.

On the future battlefield, the tactical nuclear weapon can be the key to victory. But the key will be useless if the door it unlocks is not pushed open and passed through before the enemy relocks it.

Careful planning is an essential ingredient in any operation, but particularly in one as fluid and unpredictable as a nuclear battle. Any effort to 'play by ear' such a complex and volatile situation is dangerous and ill-advised. The best staff plans are often never implemented. However, the study and consideration that goes into their preparation provides the basis for on-the-spot plans to meet the unexpected.

As battle becomes more complex and unpredictable, responsibility must be more and more decentralized. Thus mission type orders will be used at higher levels of command in the future. This in turn requires that all echelons be fully informed on the *current* situation and requires commanders to exercise initiative and imagination in exploiting their relative freedom of action.

To aid in this, we have a built-in organizational flexibility in our tactical forces. But planning must recognize and capitalize on this. To get the maximum out of our combat power, the *plans themselves must be flexible* to meet rapidly changing situations. Careful planning is not enough. This must be coupled with a readiness to change and adapt to circumstances *as they are*—not as they *were expected to be*.

General Bruce C. Clarke

TWILIGHT

WAR

Colonel Robert B. Rigg, *Armor*
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NO ONE has truly measured the potentialities and problems of an outer space war, much less fashioned the military doctrine for such a possible conflict. However, earthly warfare has a variety of still unsolved problems even more urgently in need of solution because they are with us now. This is especially true in respect to "Twilight War." Twilight War is a unique form of contemporary and future conflict. It is warfare which a modern nation can fight with true assurance that it will never lose, but with equally sound assurance that it has no chance of winning, unless the country concerned is prepared to meet the strange proportions of twilight conflict. The ugly quality of this type of armed struggle challenges the orthodoxy of a modern military machine and its inherent doctrine. The beauty of Twilight War—from an aggressor standpoint—is that it serves to sap opposing strength by its form and attrition.

In the destruction and process of war, civilian structures are demolished or fall. Conversely, in the construction and process of peace, military concepts and procedures never fall or fail until ultimately

disproved by the next war. Then, it is sometimes too late to rectify faulty military concepts and procedures.

Inherently, every nation largely accepts its own military solutions—solutions based on its own war experience. But the lessons of military experience should not be so narrowed. One must not be afraid to borrow wisely. There is no penalty for plagiarism in military methods. The penalty of defeat lies in the failure to capitalize on the experience of others.

Essential Lessons

The records of recent combat cause us to reflect on the fact that two national forces have fought for a long time, and portions of their experience have value. In recent history, France has fought more than 20 years. Communist China has been in combat for more than 26 years. During the course of this warfare, each of these military forces has strengthened itself by its failures. Certain essential lessons are apparent: each side has had to modify its methods with the passage of time, and adapt itself to new situations.

For example, the Communist Chinese began military operations as an elusive

Twilight War challenges the orthodoxy of modern military forces and their inherent doctrines. Unless the country concerned is prepared to meet the strange proportions of this conflict, it has no chance of winning

enemy. Gradually they changed into a massive military force, as in Korea. Conversely, the French in Indochina opposed an elusive enemy (Chinese oriented) with an orthodox military force, and lost. Faced in Algeria with another elusive enemy, the French have evolved a technique to play the enemy at his own game—and now they seem to be gaining strength and making headway.

This is an age of two contrasts: the first, of elusive enemies such as those found in Indochina, Malaya, and Algeria; and second, of massive forces such as those encountered in the human wave attacks under certain conditions in Korea.

The United States has not recently fought a Twilight War, characterized by combat with elusive enemies and years of frustration wherein the people and geography of a region are as much of a combat factor as the enemy forces themselves. Mao's Communist Chinese and Ho-Chi minh's Vietnamese forces came to significant power on the basis of Twilight War. Today, France's power is once again being challenged (in Algeria) by an enemy waging Twilight War. The question arises, how well prepared are we to wage and win against an enemy who chooses this type of conflict?

Up to now, we have separated warfare organizationally into two neat little packages: first, combat operations, and second, civil affairs. Consider the victories of communism in China and Indochina. Take a look at Algeria! It is evident that the exigencies of Twilight Warfare demand that the two packages be more closely wrapped into one basic concept of operations. Conceptually, we appear to be approaching

limited warfare with two other neat packages. First is the orthodox military approach to combat, and the second is the separate but unorthodox approach of unconventional warfare. In short, we have one form of combat on the line, and the other behind the lines—while tacitly acknowledging a connection and liaison between the two.

Military-Social Force

There is a significant bridge needed over this apparent military gap. This bridge is *duality*. However, it is a complex duality not fully understandable unless we recognize that in Twilight Warfare an army—or the ground combat element—must become not alone a military force, but also a social force. It is here that we can borrow some lessons from the Chinese Communist book; and more currently from French doctrine now being developed and applied in Algeria.

Algeria, like Malaya, Indochina, and China (1927-45), is not only a test tube but a significant combat laboratory for Twilight Warfare. One side stalks the enemy but rarely comes to grips with him. Military orthodoxy often fails under these conditions or vanishes in the face of intangibles.

In Algeria, the French Army first acted as an orthodox military machine fighting an elusive enemy. During the first two years of its orthodox campaign the French Army built its strength to more than 300,000 troops. The enemy began the conflict with only 15,000 to 20,000 guerrillas. Today, the French Army is turning itself into a military-social force that is slowly demonstrating that it is able to defeat the rebels, to consolidate people, and to secure regions.

In Algeria the majority of people did not necessarily side with the French National Liberation Movement (FLN). As in the Chinese Civil War, the people tended to support whichever side controlled the local region. Warfare of any

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Warfare of any type destroys and damages villages and crops, and produces complete chaos. Consequently, the civil population always looks hopefully to whichever side can restore normalcy.—US Army photos.



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type destroys and damages villages and crops, and produces chaos. Consequently, the civil population always looks hopefully to whichever side can restore normalcy, either partially or totally. It is also true that people caught in the changing tides of war become close-mouthed and do not volunteer information. The orthodox military force always needs more information than the elusive force. From an intelligence viewpoint, uncommunicative people hinder military operations.

In 1956 the French High Command was startled by a report from Brigadier General de Bolladiere, a young veteran-hero of two wars who analyzed his military ledger and balance sheets with the conclusion of military failure for lack of information. He recommended using troops to organize communities, to provide work, and to relieve local misery. Object: make the military not a repressive force but a constructive one; give the soldiers a feeling of being engaged in construction as well as destruction; supplant the mayors and civilian bureaucracy with nonpolitical partisans—the military. General Bolladiere also made another unorthodox proposal: infiltrate squad-size units to live off the land and among the people.

Parallel Objectives

Hard pressed, the French High Command finally agreed to experiment with these proposals. General Bolladiere had no overnight success with his ideas. He was criticized for using troops as civilian supervisors and medical practitioners. But a portion of the French Army built and taught schools, rebuilt bridges, helped with irrigation and farm projects, and helped the people in sickness and in health—all in the process of its military campaigns. French Army influence extended to the back areas and brought help. They used not only ordinary soldiers, but specialists as well. They especially used the SAS or Specialized Administration

Section, the equivalent of our civil affairs, in joint and parallel action.

The lesson is that by directly helping indigenous people, combat success is furthered and the area is militarily strengthened to the mutual security and benefit of all concerned. This is not easy. To help means to divert combat strength. To help means to divert from the classic and clear-cut missions of "Take Hill 109" or "Drop in Zone Zebra." Plainly, military operations in a Twilight War embrace not only military objectives. Military operations and objectives are parallel to political operations and objectives.

Twilight War may be considered not true war. Plainly, it is not war in the classic sense, but it is true war in a modern sense. Twilight War generally is practiced by the Communist and it will be with us for a long time. From the Communist viewpoint it is a safe form of conflict that can be waged with conventional weapons within the panoply of nuclear weapons.

The Communist technique—amply demonstrated in a decade in which mutual nuclear weapons have existed—is to pose the small threat, magnify it into armed conflict of Twilight War proportions, and then challenge the West to contain or end it. Twilight War is a special form of limited war—but so special as to challenge present-day military doctrine. Do we have an organizational concept that foresees sending a unit from platoon to regiment size into the countryside on its own? Could the unit impose its will either by force or persuasion or both, while making full use of doctors, mayors, chaplains, and uniformed school teachers as well as military bridge builders? Could the unit simultaneously bring a true sense of military-political-economic protection to local communities?

Classic military actions, especially those in which the opposing forces sweep back and forth in the ebb and flow of maneuver

and success, leave communities at the mercy of self-survival.

If limited warfare is changing—and there is evidence that it is—then, it is changing into a form of a military-political-economic force wherein the soldier emerges to play dual and difficult roles. Heretofore, it was simply military affairs for the military and political affairs for the civil servant. Times change! The military, whether it likes it or not, will be concerned with the full range of military-political-economic affairs. In limited wars of the future it is possible for the Western soldier to fight with all his modern weapons, but he can become lost—and he can lose—if he doesn't have his political-economic feet under him.

The Communist soldier travels on many legs: military, political, economic, sociological, propaganda, and psychological. But the Western soldier up to now has walked primarily on only two—both military—yet he is learning rapidly that Twilight War differs from classic combat.

Basis for Doctrine

Seven principles for the foundation of a doctrine for Twilight War have emerged:

- *Protect the people.*—This is a difficult job, especially when warfare is fluid. This means that communities must be given inner protection if they are isolated. This is objectionable because it bleeds fighting power. But in a Twilight War, if an area is lost temporarily to the enemy, it can be profitable to leave behind isolated but strong bodies of troops. These units not only can protect the people, but also can provide combat islands in the enemy's territory. These military "left behinds" need never be "sacrifice troops," provided they are supported by air and reinforced by subsequent air and ground combat action.

- *Organize civilian life to fit the situation at hand.* This is a large order, but it

can be done. After all, wars are fought for people and for their protection and needs. Soldiers cannot stop, drop their guns, and stoop to care for civilians, but there are ways to delineate the problem, fix the areas and functions of responsibility, and keep the combat troops in action. This is an organizational problem of combining "packages."

- *Organize and carry out reconstruction and education.*—The havoc brought by war is not quickly reconstructed. The side that does its utmost quickly will win the favor of the local populace to some degree. Create a local administration of power, vigor, and efficiency. We have done this before. The point is, that it must be done quickly and with staying power.

- *Clean up the terrorists.*—The people, if assisted by a variety of methods and means, may be of help. However, if the region is a formerly hostile one, the effort must be persuasive, efficient, and logical in a political-economic sense and the overall effort must have the quality of permanency and logic.

- *Find the enemy through the people.*—The keystone to the success of this effort will be what the military force has done for the people by applying the aforementioned principles. This principle was applied in Malaya with good success.

- *Deny the enemy through the people.*—In Malaya the British practiced this principle and found it basic in wiping out the Communist irregulars.

- *Rally the public.*—This may be brought about more easily if the other principles have been applied soundly. One must project a logical political ideal—a tangible, sensible form of government and order that has meaning to the people.

Perhaps all of these principles are self-evident. There is need to study, examine, and amplify them further, shaping them into doctrine for Twilight War.

The Armed Might of Red China



Major Edgar O'Ballance
Sherwood Foresters, Territorial Army, Great Britain

THE most disturbing factor about Communist China today is that she is the only major power in the world to allege that she is not afraid of a nuclear war. Reports indicate that she is conditioning her population not to fear such an eventuality. Unlike the other Communist giant, Russia, she shows little interest in peaceful coexistence.

Reliable information about the armed forces of Communist China is scarce, but sufficient is available to enable a rough picture to be drawn. The reliability of the facts and figures quoted cannot be absolutely guaranteed, but they are invariably the mean average of a number of varying estimates which I have selected as being the most likely to be accurate.

First of all, the immensity of China must be understood. China covers almost four million square miles, and has a population of at least 650 million people. Moreover, the population is reputed to be increasing at the rate of about 15 million a year, and experts anticipate that in a few years' time it will exceed one billion. If this thought is not overwhelming enough, over 500 million, perhaps more, of the Chinese people are regimented into communes.

Mao Tse-tung has boasted that he has a militia of over 250 million, and varying reports indicate that his standing army is not far short of the five million mark.

With these facts as a background let us analyze the armed forces.

Communist China shows little interest in the Soviet line of peaceful coexistence. Should the Communist idols fall, or the Communist gods reveal their feet of clay, a Chinese military junta could step into power

The Army

The strength of the standing army probably is about four and one-half million, consisting of about three million combatant troops and the remainder in support forces.

Of this large combatant element, about 90 percent at least is infantry, thus leaving only a comparatively small proportion of specialists, such as gunners, engineers, armored crew, and signallers.

There are at least 10 armored divisions, and either five or six artillery divisions in existence. As more equipment becomes available these numbers are increasing. It is thought that the immediate aim is to have up to 30 specialist divisions as soon as possible, material being the main retarding factor. In addition, there are at least three airborne divisions, and about 15 others have received some form of amphibious training. These are basically infantry in character and cannot be counted as "specialists." A few infantry divisions and regiments are "motorized." There are a few other types of specialist formations, including engineer regiments for special tasks such as railway construction.

The precise number of infantry divisions in existence is not accurately known, but it is of little real importance at the moment since a gigantic reorganization of that element has just begun. Recently, there were about 150 infantry divisions, together with approximately 300 independent infantry regiments and battalions. The Communist Chinese infantry division began as a small one, containing less than 7,000 men. In the post-1949 re-

organization its strength increased under Soviet influence to about 11,000, and has grown steadily until it may average about 14,000 in all ranks.

The Chinese have repeatedly, especially of late, insisted that they are not copying the Soviet military pattern, but are showing genuine originality. However, their divisional organization—which is on the "triangular" basis of three regiments, each of three battalions—is amazingly similar. The only differences appear to be that the Chinese have no integral armor and little transport, and that the infantry section or squad is larger, because they have ample manpower.

Structure Revised

In 1959 it was announced that the divisional structure would be revamped along lines similar to those of the United States "pentomic division." It was to consist basically of five units, but for the time being there was to be no integral armor and little mechanization: that was to follow in due course, and artillery would be added as and when it became available. A start has been made, but it is hard to say how far this reorganization has progressed. Certainly, some of the formations stationed in Fukien, opposite Taiwan, have been reshaped. The object seems to be to have the new "pentomic" divisions replace all the old style infantry ones eventually.

Some authorities insist that the fighting element of the army is only two and one-half million, but it is thought that this figure is too low, and that three million is much more realistic. This means that Communist China one day will have between 240 and 250 small pentomic divisions. This transformation will take time.

Administration

Strategically, all army field formations come under the control of one of the six "Front Armies," which together cover the entire country, and come directly under General Headquarters at Peking. Under

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the present arrangements, which may prevail for some time, three divisions form a corps, and three corps an army group.

This leaves about one and one-half million soldiers to be accounted for. An army of three million men, even a Chinese one, takes some looking after, and at least one-half million are directly concerned with its administration. By Western standards this is a low figure, indeed. But it must be remembered that apart from the few specialized divisions, it is all infantry whose needs and standard of living are very elementary.

Although this large combatant element is static, in that formations and units do not rotate from station to station as is customary in most armies of the West, but remain generally in the same areas for years, it, nevertheless, requires about one million men to transport its food, supplies, and ammunition on a peacetime footing. Those who are under the impression that Chinese soldiers can march and fight day after day on a handful of rice, and whose only conventional needs are ammunition for their weapons, may be a little surprised. Three soldiers must be employed to bring the necessary supplies required to maintain four soldiers in training near their camp. The truth is that the Communist Chinese Army is almost as dependent upon conventional rear services as is any other army today.

When one considers the terrain of China and its immensity, criss-crossed by major rivers, mountain ranges, and other natural obstacles, coupled with the scarcity of communications, and the shortage of motor vehicles and petroleum, oil, and lubricants, it is amazing that this huge transport corps is not larger. In the hinterland the mule cart, the wheelbarrow, and the carrying pole are common forms of transport. The humble bicycle is making its appearance and is being widely used by the army in certain areas.

A short time ago more than two million men were in this transport corps

which reached all over China. The development and progress of the road and railway building program has reduced this figure, and in time it probably will be reduced further. This transport corps has its own General Headquarters, and is organized into about 40 territorial divisions. It operates not only with motor vehicles, wherever roads permit, and with boats on navigable rivers, but adopts local transport such as mules, wheelbarrows, and the carrying pole whenever necessary. At times entire units carry supplies on their backs to provision the garrisons in some of the less accessible parts of the country. Clearly, if the Communist Chinese units rotated or had to be moved any distance, this figure of one million would have to be increased greatly.

Conscription

In case anyone is inclined to doubt such prodigious figures, it can be mentioned that conscription is in force and some 50 million draftees a year could be produced, if necessary. A selective system is in operation and only a small proportion of those available actually are called up to serve in the standing army. Assuming these figures are roughly correct, the over-all figure of four and one-half million for the army is by no means an overestimate.

Defense cuts, especially in manpower, have been talked about since 1957, but have never been put into effect. In fact, the trend has been to make the armed forces slightly larger.

Conscripts serve for three years which means that a large trained reserve is being built up continually. Several sources put this first line reserve, available for immediate recall, as being 17 million strong. This may be true, but as most of the men are drafted automatically into the militia, this figure is not significant in itself.

The deduction is that the army is large, is predominantly infantry, is in the proc-

ess of a vast reorganization, and its transport problems are greater than generally realized.

The Militia

The figure of 250 million makes one pause, but upon examination, even assuming Mao's claims are correct—and there are no means of knowing precisely how accurate they are—it may not be such a formidable mass as it seems. Only a small proportion is trained, and a still smaller proportion armed. It may be quite true that 250 million people are, in fact, regimented in that they are compelled to lead a disciplined existence, and perform drill each morning before being marched off to the field in their work brigades, but their potential military value as a fighting force is another matter.

The Communist Chinese Militia dates from before the Civil War period, and always has been of gigantic proportions. It consists usually of unarmed workers to fetch and carry and to become the tail of the fighting elements, to collect information, to provide reinforcements, and to play a guerrilla role. In November 1958 Mao called for the formation of a strong militia to support the regular army, to supply it with reinforcements in case of war, and to provide guerrilla resistance in case sections of the country were overrun by an enemy.

With the formation of the communes in that year, the militia swelled to gigantic proportions almost overnight, on paper at least. Its organization was that of a collection of militarized labor formations in which a little military training and a lot of work were done. Political education was emphasized, and an hour a day was devoted to that subject.

The number of the militia in a moderately efficient state of training probably does not exceed 30 million; this would include the 17 million regular army reservists. Of this 30 million not all are armed, but they will be as soon as arms are made available to them.

The fact that a small proportion of the militia is armed is due partly to material shortage and to the fact that the masses in Communist China are not to be trusted with arms. Only as the political indoctrination progresses are more arms cautiously distributed. There were smothered groans when the communes were forced on the peasants. It is unlikely that all are in full agreement with the idea. Mao has boasted that 90 percent of the people of Communist China are with him. Even if this is true, it means that 10 percent are not, and 65 million is a lot of people. Each commune has a few units of armed militia, but for every armed unit there are many unarmed ones. Pictures of the Chinese Militia drilling with wooden rifles have not been faked.

The militia is formally divided into two parts, the "army militia" and the "citizen militia." The army militia consists of men and women between the ages of 18 and 25 who receive a two-month course of basic infantry training and then carry out two hours' drill every day. Its object is to provide reinforcements and replacements for the regular army in case of war.

The citizen militia includes all other men under 50, and women under 32. It is not as well-trained, being mainly proficient in elementary drill and guerrilla tactics. Its task is defense of the commune and guerrilla resistance should that particular part of the country be overrun by an enemy. Few arms are allocated to it.

The deduction is that the vast bulk of the militia is of doubtful military value, because they are poorly trained, unarmed, and immobile. It cannot be ruled out that they may be discontented and potentially unreliable.

Equipment

Communist China, an agricultural country with comparatively little industrialization, is faced with the problem of equipping a peasant army with modern weapons. Although she is striving to catch

up in the industrial field, it is felt that her boasts are overoptimistic. In a modern sense her army is not well-equipped.

Her own war industries are slowly developing and now are producing rifles, submachine carbines, mortars, ammunition, grenades, and mines in quantity. She has enough for all her regular forces, and as many as she thinks prudent to give the militia.

In regard to heavy equipment and weapons, such as tanks and guns, she still has to rely heavily upon outside help. The Soviets have sent large quantities of these weapons, the majority during the Korean War. A trickle has continued to arrive since. Two of the armored divisions are equipped with *Stalin* tanks, and the remainder with *T34*'s and Russian self-propelled guns. The artillery divisions also have Russian guns. The tanks captured during the Civil War are now fit only for training purposes. Communist China has not yet reached the stage where she can produce her own tanks and guns, although she has made a start by manufacturing small field guns.

It is thought that not more than 40 divisions of all types are completely equipped on a war footing. These are mainly stationed opposite Taiwan, presumably preparing for the projected invasion of that island. Many of these infantry divisions have a mixed bag of artillery, some being pieces captured in the war with the Nationalists. The remainder of the Communist Chinese divisions are literally "infantry" in the full sense of the word, although a few have detachments of artillery. Soviet aid of this nature is visibly slowing down which means that the number of fully equipped divisions will increase slowly.

All highly technical equipment, such as wireless sets, radar, and precision instruments still come from the Soviet Union.

China is very short of motor vehicles, and is only beginning to produce her own. These are ill-concealed copies of Soviet

models, but she has been assembling Soviet trucks for some time. Not more than a dozen infantry divisions and regiments are motorized, and while most regiments have a few vehicles, it is still reported that many have none at all. The transport corps has several thousand trucks but shortage of fuel is a restricting factor.

An early warning radar net has been established in Manchuria with Soviet help.

The deduction is that the Communist Chinese Army is only partially equipped, can produce only a limited modern striking force, and has an extremely limited range of action. The bulk of the infantry is largely immobile in regard to large-scale movement.

Training

An effort has been made since 1955 to transform the guerrilla character of the army. Only slow progress has been made, however, due to a lack of modern equipment and partly because the old dictums of the guerrilla-minded Mao Tse-tung are adhered to religiously. A few slightly out-of-date Soviet manuals have been translated and are followed to some extent, but they are heavily overshadowed by Mao's writings.

The Chinese soldier trains rigorously, but there are no startling or unusual features. On the contrary, the infantry training tends to be unimaginative and very old-fashioned by Western standards. They concentrate upon the use of personal weapons, grenade throwing, mine laying, long marches, night infiltration, and mass dawn attacks. Guerrilla tactics are still emphasized. The army never forgets that its roots are in guerrilla warfare. This attitude of the older commanders permeates their commands. The political department trains the soldier two hours daily.

Economy is rigidly enforced in training, especially in connection with ammunition and petrol. It has been estimated that the average conscript fires little more than 50 rounds of ammunition in his ac-

tive service. Certainly, individual marksmanship is not practiced to the same extent that it is in other armies. Because gasoline is scarce, training in conjunction with mounted troops is rare and, in the majority of divisions, unknown. The lack of formation training is such that not more than 100 infantry divisions, if put into the field tomorrow, would be capable of anything more than static defense. The exceptions are, of course, the specialized divisions, and those grouped opposite Taiwan which have a higher degree of readiness.

A number of schools have been set up for the various arms, but all reflect marked Soviet influence. There are two paratroop training schools and five or six amphibious training centers.

Reports recently indicate that "nuclear training" is being given to the regular army, but precise details are not known. As yet, it can hardly be widespread or well-developed and practiced. After years of training in mass movement and attack, it obviously will take some time to instill the doctrine of rapid dispersal and concentration into some of the older commanders.

The deduction is that with the exception of the tiny specialist element, the general standard of training is not high.

Work

The Chinese Army boasts that it is both a defender and a builder. Manual labor plays a big part in the life of both the officer and soldier. In the summer, whole formations go out to help with the harvest, and it has been estimated that for a few weeks a year about half the regular army is engaged in forms of nonmilitary work.

Other work, especially of a construction nature, is undertaken. Entire divisions, for example, move out to work on flood prevention projects. Also, the army is called upon to help build dams, canals, and roads. It seems to take an especial

interest in railways, and even though there are several army engineer railway construction units, whole regiments of infantry frequently are brought in to help.

The infantry bears the brunt of this work, which is by no means universally popular. The specialist divisions and those on the alert facing Taiwan, are not called upon to do quite so much. Most units maintain small farms where they raise livestock and vegetables to fill out the rations.

Since April 1959 infantry divisions and regiments have been sent to selected communes to help with the work and organization, and in all probability to assure that there is discipline and no uprising.

The Chinese soldier is expected to lay down his rifle and take up a spade or labor like a coolie in the fields.

The Officer Corps

It may be of some surprise to know that the Communist Chinese Army has developed an officer corps. In the Civil War, and immediately afterward, the officers were "equal," wore no badges of rank, and had no privileges. Reaction set in when a formal peacetime discipline had to be enforced.

In 1955, a year after the new constitution had been promulgated, a number of regulations were issued concerning officers. Twelve different ranks were introduced. They wore badges of rank and were given differential scales of pay. They ate in separate mess halls, conditions of service were laid down for the regulars, a Soviet-style uniform was produced, and saluting made its appearance. These regulations, and others which followed, amounted to a charter to found an officer corps. The Soviets were helping to modernize and reorganize the Chinese Army.

By tacit Soviet encouragement, during the next three years more privileges were obtained. A strong officer corps, with all its conventional faults and strengths, began to blossom under the eyes of the hor-

rified commissars and the party members. Veteran senior commanders also disappeared.

In 1958, the year of the disappointing Great Leap Forward, open differences appeared between the officer corps and the party. Chu Teh, the veteran general, openly deplored the new attitude of "professionalism" on the part of the officers, and criticized them for concentrating solely on their jobs and cutting themselves off from politics. He complained that many officers looked down on the politicians and were reluctant to associate with them.

Shortly, it was decreed that all regular officers, regardless of rank, must serve for one month a year as private soldiers in the ranks to correct this terrible "rightist" tendency. During the next six months more than 150,000 officers, including about 150 generals, went through this procedure. The practice continues today with illness or unfitness the only way to avoid it. It has not been popular. More recently, specialist officers have sometimes managed to dodge service in the lower ranks, but infantry officers have not been so fortunate.

In addition, officers were expected to set an example by sharing in productive work. Groups of them, senior officers included, were, and still are, frequently detailed to a commune and expected to do a few days' manual work. This is not popular either.

These practices have had a somewhat adverse effect on the army, on all levels, and morale and discipline have been affected. The officers now have the problem of maintaining discipline and at the same time remaining "equal," a most difficult task. This leveling down has caused loss of respect and, in some cases, even loss of control.

The communes have had many teething troubles. Since April 1959, regular officers have been detailed to serve in them

to organize and control the work brigades under strict political guidance.

Like most armies, that of Communist China is faced with the problem of obtaining enough young regular officers of high quality. There are a number of cadet schools for training young officers. During the 18-month course they receive a thorough political, as well as military, training before being commissioned. After receiving their commissions, the young officers serve for six months in the ranks before they assume officer duties and status.

There are staff and tactical schools for both junior and medium grade officers, and in 1958 the Academy of Military Science was established for senior commanders. The proportion of staff trained officers is small, but is growing.

Generally, it must be said that the average army officer is conscientious, hard working, loyal, and patriotic. Although he is capable of exercising his command and doing his job reasonably well in the field, he lacks formal and technical education.

The Chinese Army is controlled by Civil War veterans who have been in power and held positions of high responsibility for many years. All are intensely loyal to the party and all played prominent parts in the fighting in the Civil War. There have been purges, but they have affected only the medium and junior grades. The veterans have stuck together. Unlike the Soviet Army, there have been no blood baths.

A large number of ex-Nationalist officers, who defected to the Communist cause during the Civil War, have become regular officers. They serve both as regimental and staff officers. A number are generals, and while all are seemingly trusted, it is noticed that none has an independent command.

A key to the future may lie with the officer corps, especially the younger, more virile element. It is growing in power

and although held in rigid check by the party commissars at the moment, it should not be underestimated. When the present Old Guard fades away, a military junta may step in to take its place.

The Men

The average Chinese soldier is a peasant with all the good and bad qualities of his class. He is tough, can take care of himself in the field, but has little individual initiative and is almost illiterate. He is strongly indoctrinated with Communist ideals, and has known no other. He believes what he is told by his commissar, and materially never has been so well off.

The average conscript, who forms the bulk of the standing army, comes in at age 18 and serves for three years before being drafted into the militia. The old muddles and uncertainties over conscription have been sorted out and the system works quite well.

Women do not now serve in the regular army, but serve in the militia. A few squads of women from the militia and not the regular army are kept for world publicity purposes. This includes the much publicized women's paratroop formation which gives spectacular displays to visitors.

The conscript has two uniforms, a quilted one for the winter, and another of lighter material for the summer. Nowadays he is paid in money, with which he is able to buy a few luxuries, but he is also encouraged to save and put his savings in the Government Savings Bank. When in camp he eats two meals a day in a mess hall. They consist either of rice or millet, with occasionally meat or fish thrown in. In the field he still is expected to exist on his issue of rice. He is not allowed to marry. During the economy drive of 1959 his rations were cut slightly and he was told he would in the future get only one new suit a year instead of two.

There is a small, regular, long-service element made up of instructors and warrant officers. They are mainly Civil War veterans, either loyal to the party or actually party members who act as a check on the regimental officers, few of whom are party members.

There is no doubt that the Chinese soldier is strongly disciplined; even so, he appears generally to be content with his lot. His morale cannot be gauged accurately, but he would almost certainly fight willingly against any foreign "barbarian" invader; he is taught to believe that the West is continually striving to deprive him of what little he has and his security.

When it comes to estimating his fighting qualities, it must be remembered that he has never faced stiff, sustained opposition on a modern battlefield. During the Civil War the combat with Nationalist forces was not a true test. Only hand-picked volunteers fought in Korea, so that was not truly representative.

Nuclear Power

There have been constant rumors that Communist China possesses and is about to detonate a nuclear device. This has not yet happened, but it will one day, and the world will wake up to find that there is a new member of the "Nuclear Club." The Soviets, for a variety of reasons, are not keen for that day to arrive. So far they have persistently refused to give Communist China nuclear weapons.

On the other hand, the USSR has given her considerable help in the field of peaceful nuclear research. It may not be generally known, but as early as 1954 Communist China had 36 nuclear research stations in operation, with Soviet help. This number has increased. In July 1958 she announced that her first atomic reactor was in operation. China, obviously, is gaining experience and inevitably will one day arrive at the stage when she will have nuclear detonation devices.

Rich deposits of uranium have been discovered in the Tien Shan Mountains in Sinkiang. Once she gets the "know-how," she will be able to stockpile quickly. With a stock of nuclear weapons, Communist China will indeed be a world power with which to reckon.

In Fukien and some of her border provinces, rocket sites have been established with Soviet aid and supervision, but as far as is known, there are no nuclear warheads in Chinese hands.

It has been reported that the Soviets have given her a few tactical missiles, but no reliable details are available.

Politics

Communism permeates the army, and loyalty to the party is unquestioningly demanded. From the highest level to the lowest, there is a dual chain of command throughout the armed forces. For every commanding officer there is paired off a commissar with his political staff. The commissar is responsible for indoctrination. His authority is paramount in politics and he is able to override the military commander's decisions in this sphere.

As far as is known the men in the ranks are docile politically, but there is evidence that there has been and still is an undercurrent struggle between the increasingly powerful officer corps and the political department. The commissars are striving to maintain their dominance. They continuously sneer at the uniforms, privileges, and nonpolitical attitude of the officers.

Differences first became obvious in 1958 when the party blamed the army officers for not cooperating wholeheartedly. The party complained that the army was always slightly better off than the peasants. Many "rightists" were discovered among the officers and weeded out. This, and the reluctance to allow the army to be turned into a gigantic labor corps, resulted in a new Defense Minister being appointed in September 1959, with the object of en-

suring strong political control over the armed forces.

The Air Force

China has the third most powerful air force in the world, with about 3,000 front-line jets and 1,500 older models. It has developed rapidly. The Communist forces did not acquire any aircraft of their own until about 1949. The first large infusion came during the Korean War when the Soviets handed over 1,000 aircraft. More have followed along with Soviet technical assistance and instruction.

There are about 50 regiments of jet fighter-interceptors, consisting mainly of *MiG-15's* and *MiG-17's*, although a few *MiG-19's* have made their appearance. About 20 regiments of light bombers, mainly *Ilyushin-28's*, exist. There are squadrons of transport and other specialized aircraft, as well as a helicopter wing. A long-range bomber group is being built up, but as yet is very small.

There are enough pilots to fly this number of aircraft. Reserves are being trained at the several flying schools which are in operation.

For some time the Chinese have been trying to design and produce their own aircraft, but they have not been very successful. They have produced only indifferent "cribs" of Russian models. China has to rely on the USSR for her supply of aircraft. *MiG's* are assembled in China, but that is as well as she can do at the moment.

The air force consists of about a half million men which includes the ground crews, technicians, and administrative staff. It has become something of a *corps d'élite*, and the personnel are handpicked. It was first in the field with a smart uniform. A number of women are accepted, both as pilots and administrative staff. Women pilots fly the transport aircraft, and there is a showpiece squadron of fighter aircraft with women pilots.

During the Korean War, United States

pilots were not overimpressed with the quality of the Chinese pilots, but they were then only learning their skills. They have improved since that time. As demonstrated in the several air battles over the "Offshore Islands," their tactics and combat skill are not quite up to the standard of the Nationalist Chinese pilots.

A number of air-to-air missiles are under the control of the air force, but little is known about them.

The deduction must be that Communist China has the third largest air force in the world, but she is completely dependent for aircraft replacements upon the Soviet Union. The signs are that Russia is not in such a generous mood of late. What is more important is that all aviation fuel has to come from the Soviet Union.

The Navy

By comparison with the army and the air force the navy is tiny, consisting of about 340 ships and approximately 50,000 men. There are two cruisers, 18 destroyers, and 32 frigates; the remainder are small coastal craft. Two-thirds are Soviet built. More destroyers and frigates are under construction in the shipyards at Shanghai and Canton, but the output will not be high for a few years.

In addition, the navy controls about 300 seagoing landing craft, and more are being constructed, presumably with the

projected invasion of Taiwan in view.

What is perhaps more significant is that China has at least 24 submarines of Soviet origin. Until recently, most of the officers in these submarines were Soviets, but now sufficient Chinese have been trained. More submarines probably will be acquired. The restricting factor seemed to have been the shortage of trained Chinese officers and crew.

A small merchant navy consisting of about 250 ships is being built.

The deduction must be that the navy has only a limited defensive or offensive use, but there is the possibility of a rising submarine menace.

Summary

The Communist Chinese armed forces may be likened to a huge dragon. Only a few of his enormous teeth and claws are sharp—many are missing. Nor can he walk very far. He is completely dependent upon the fuel he is fed for his aerial blasts of fire.

The military hierarchy is aging, is guerrilla warfare minded, is cautious, and reluctant to change with the times.

The armed forces, in spite of their size, have limited offensive capabilities, but many defensive factors are in their favor.

Should the Communist idols fall, or the Communist gods reveal their feet of clay, a military junta could step into power.

Every member of the Army can take pride in its past achievements in peace and war. Now we are in an era of revolutionary change in weapons and methods of warfare—but one fact remains constant—the weapons of war are only as good as the men who man them in battle. So long as our ranks are filled with men and women of dedication and sense of purpose we shall be able to meet the challenge of the future with the same effectiveness that has characterized the Army's performance throughout its long history of service to our country.

General George H. Decker

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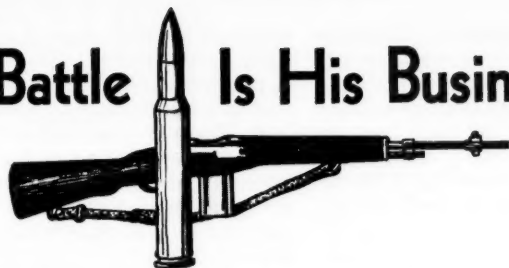
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Battle Is His Business



**Master Sergeant Forrest K. Kleinman, United States Army
Information Office, Headquarters, Sixth US Army**

REAMS of prose have been written championing the rifleman's indispensable role in national defense. Hardly a service journal goes to press—or military speech to the podium—without tribute to his social, political, and moral importance.

But what about his tactical importance? What about his contribution to achieving the decision at arms that even the pushbutton pundits do not deny only he can conclude and enforce? In short, what about his business in battle?

Answers to this down to earth question are much less plentiful in contemporary military writing. Although his photograph looms large as ever in the pages of our service journals, his tactical importance is dwarfed or unmentioned in some of the very copy he illustrates. Theories on the employment of armor and missiles often leave the impression that the Queen of Battle is less aptly analogous for the future combat role of the rifleman than the lowly pawn. The recently announced MOMAR concept does little to erase this impression. It seems to have given substance to the illusion that the doughboy is about to join the dodo.

Yet, it is just as true of tactics as of strategy that not all mutations resulting

from nuclear fission are generative. Like their biological counterparts, mutations in military thought are degenerative if they do not conform with reality and provide for successful adaptation to the nuclear-age environment. Tactical concepts that ignore the critical importance of the rifleman belong in this category just as rightfully as strategic concepts that ignore the critical importance of ground forces. Both technological advance and the feedback of experience, since the dawn of the nuclear-age, indicate that the nuclear threat has enlarged rather than diminished the rifleman's potential decisiveness in combat.

Even laymen now recognize that strategic nuclear parity and the senselessness of mutual destruction make limited or localized conflicts much more likely than an all-out war. At the same time, it has become more and more apparent that tactical nuclear weapons may not be suitable in many likely situations of future conflict. So the fact that the rifleman has played a decisive role in virtually all the 18 wars since 1945 loses none of its nuclear-age significance merely because a mushroom cloud has yet to rise on a battlefield.

The rifleman's potential decisiveness in

Tactical concepts that ignore the rifleman belong in the same category as strategic concepts that ignore the importance of ground forces

the future is not dependent on the nonuse of either strategic or tactical nuclear weapons. On the contrary, it will be more critical if the weapons are employed. One experienced observer has said that an all-out nuclear exchange would immediately and drastically reduce the capability of all other elements of the Armed Forces to sustain operations. With missiles depleted, air and naval bases hard hit, factories atomized, transport and fuel facilities heavily damaged, who but the rifleman could play the decisive role? That the Communist bloc is well-aware of this is evinced by their current program for greatly increasing their trained reserve of riflemen.

Remunerative Targets

Even in a limited war, tactical nuclear weapons would impose disproportionate attrition and restrictions upon other ground force elements and their logistical support within the theater of operations. Consider, for example, what would have been the effect upon our operations in Korea if the enemy had employed the tactical nuclear weapons he possibly has there now or the conventional air interdiction capability he had there then. Certainly, there were (and still are) plenty of remunerative targets.

Consider, too, whether it would be possible to reduce this vulnerability without loss of combat effectiveness unless we increase the ratio of riflemen to heavy supporting elements. Granted that more modern means of cross-country and vertical mobility would do much to solve some problems. Nevertheless, the rifleman remains the most economical payload for

transport by air in terms of combat capability and flexibility upon arrival—particularly in view of the fact that he can now be given fire support from far in the rear. Moreover, increased dispersion and other passive measures of defense against nuclear weapons greatly increase the number of riflemen needed for patrols and local security of all units in the battle area.

On the other side of the battleline in Korea, there were no remunerative nuclear targets. We have authoritative word for this, not only of a former chief of staff, but of veteran artillery officers who found profitable targets for conventional fires extremely scarce. By effective accommodation to our superior firepower and tactical air threat, the enemy presented an adaptation to the conditions of nuclear battle—both tactically and logistically.

It is highly significant, therefore, that the successful adaptation was achieved by an army composed mainly of riflemen. It is significant, too, that only in *riflemen* was the enemy army greatly superior numerically to the United Nations ground forces. Contrary to popular fallacy, the total number of enemy military personnel actually in Korea did not present towering odds against the total number of UN military personnel in the theater of operations, except in the early stage.

Fewer Rifle Companies

The Communist Chinese High Command has increased the number of rifle companies in its infantry division since the Korean conflict. Whether it is wholly or only partially a result of their experience under conditions so similar to nuclear battle, no one knows for certain. It is certain, however, that the United States has decreased both the number of rifle companies in the infantry division and the number of infantry divisions in the Active Army and Reserve forces.

Increased firepower and mobility is said to justify the reduction. Aside from

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the fact that the necessary tools are still in prototype or pilot production five years after the reduction in rifle companies was initiated, the justification does not seem to jibe with recent experience. As demonstrated in Korea and Indochina, area-type supporting weapons lose much of their theoretical casualty effect when enemy tactics do not present discernible area-type targets. Battle statistics indicate a downward, rather than an upward, trend in the ratio between casualties and the size of the tactical bang!

Artillery is credited with inflicting the most casualties upon the dense formations of World War I. On the less populous battlefields of World War II it was the mortar. During the fluid phases of Korea it was the machinegun and rifle bullet that accounted for the largest percentage of UN casualties. With greater dispersion and fluidity of situation in nuclear battle, it seems unlikely that the trend will be reversed. In fact, infiltration and leaning tactics on both sides of a porous battlefield will present many situations in which area-type weapons cannot be employed at all without unacceptable danger to our own troops and installations.

Aimed Rifle Fire

Even in the days when the shibboleth of mass provided profitable targets for massed artillery fires, aimed rifle fire was much more decisive than casualty studies reflect. For the *who*, *when*, and *where* of casualties is often more telling than *how many*. One of our famed veterans of Bastogne put it this way: "When you kill the men in front, it's like chopping off the fingers of a hand that's reaching for your throat!"

Just a single rifleman can exert an influence upon the outcome of a battle vastly disproportionate to the theoretical firepower of his weapon. The noted naval writer, C. S. Forester, dramatized this aspect of war in *Rifleman Dodd* which

describes how a single determined rifleman immobilized a battleship and thereby won a critical naval engagement. But there is no need to rely upon Mr. Forester's literary talents to point the moral. Nor need we invoke the names of Sergeant York, Audie Murphy, and Nelson V. Brittin. Nearly every veteran of close combat—and some not so close—can remember at least one unsung hero whose rifle saved the day. The following incident doubtless will remind many readers of similar illustrations from their own experience.

Pusan Perimeter

The incident occurred during the days of the Pusan perimeter when the enemy pressed for the kill via a bridgehead across the Nakdong River. The surprise thrust threatened the entire UN position in Korea.

So skillful was the well-trained enemy infantry at the use of cover, concealment, and dispersion, that profitable targets for observed artillery and mortar fire were rare. In desperation, fighter bombers and UN artillery plastered the entire bridgehead area. Still the enemy pushed on with heavy night attacks, until only the 1st Battalion, 19th Infantry, stood between the Communist spearhead and the key road net for exploiting a breakthrough.

For three days the battalion repulsed dusk to dawn assaults, suffering heavy casualties. Back at the 24th Division's Command Post, it was doubted that the battalion could hold the position another 24 hours without strong reinforcement. All other divisional units were hotly engaged. Even the division headquarters company, military police company, and band and service units had been committed against enemy infiltrators blocking the roads behind the line. The division commander, Major General John H. Church, alerted the officers and enlisted men of his own staff to prepare for commitment as a rifle unit.

Dudley's Rifle

While the enemy regiment immediately facing the 1st Battalion waited for another nightfall, the situation underwent a drastic change. Sergeant Arthur C. Dudley, a recent replacement from a service unit in Japan, commanding a heavy machinegun squad, brought about the change. Dudley left his squad's support position and crawled up to a front-line firing point. Using his binoculars to spot targets on the enemy-held ridge more than 600 yards away, Sergeant Dudley quietly went to work with his *M1*.

Because he was careful to scatter his kills, the occasional report of his rifle must have seemed harmless as a fire cracker to the enemy at first. Hours must have passed before they realized what was happening. Dudley continued to spot unwary targets long after his score passed the 30 mark.

According to sworn affidavits later submitted by eyewitnesses, long-range rifle fire in that section accounted for more than 100 known enemy casualties. That night, for the first time since the big push began, the enemy spearhead did not attack. Prisoners said that deadly sniping fire had nearly panicked the Chinese regiment. Dudley's battalion commander credited him with saving the battalion's key position.

In nuclear battle the need for Dodds and Dudleys will not be confined to the infantry. The enemy assaults against command posts, artillery positions, and supply facilities that red-lettered the fluid phases of the Korea and Indochina conflicts merely hint at the scope of the future threat to rear area installations. Like Archimedes, who was cut down by a Roman Legionnaire behind the walls of Syracuse, our specialists and technicians will need more than scientific knowledge and long-range missiles to cope with enemy infiltrators in close combat. Henceforth, there will be more truth than irony

in the term "Base Section Commando!"

Although the combat power of the rifleman is not indexed by the theoretical firepower of his weapon, obviously, the development of the *M14* can radically affect his organization and unit tactics. With its automatic fire capability, it can release the rifle squad and platoon from rigid reliance upon the classic framework of machineguns. This, in turn, can increase the speed and flexibility of small unit maneuver—provided that we do not weight down the future squad and platoon with organic heavy weapons. (Granted that the *M14* does not eliminate the need for accurate long-range automatic fires, the fact remains that increased flexibility for the infantry division should start at its tactical fingertips.)

With increased dispersion and fluidity of situation, combat at the small unit level will closely resemble the combat patrol actions of previous wars. Very largely, it will consist of "meeting engagements" in which the first hard punch may be decisive. The *M14* (and its successors now in prototype) can put that initial punch into the hands of every rifleman. It can increase by more than 300 percent the rounds per minute that the present squad can deliver against the enemy immediately upon contact. At the same time, its dual fire capability permits aimed single shots whenever the tactical and logistical situation warrant.

Expenditure

The often-heard argument that riflemen will not use the automatic fire selector economically is unrealistic. Modifying the option by cutting down on the number of rifles would be like limiting the number of helicopters in the infantry division to the number of pilots now trained. As Brigadier General S. L. A. Marshall's battle studies prove, the real ammunition problem in close combat is expenditure—not conservation. His authoritative studies also show that men armed with

automatic weapons are much more active and aggressive in the fire fight.

Still another technological advance that reinforces the tactical importance of the rifleman is the development of hand-held antitank and antiaircraft weapons with sure-kill capabilities. As organic weapons, they will permit a degree of independent operation by the rifle company heretofore too hazardous to contemplate against mechanized forces with strong tactical air support.

It is not the intent of this article to argue any degree of tactical omnipotence or self-sufficiency for the rifleman. No less than in the past, he will need the combined efforts of all elements of the triservice team to put him in the best place at the best time with the best protection and the best support to do his job.

Only if the rifleman is denied the modern tools and tactical concepts for exercising his potential decisiveness is there danger of his following the horseman into

military oblivion. The consequences in this event would extend far beyond the battlefield—nuclear or no. History shows that the social, political, and moral influence of the fighting foot soldier vitally depends upon his tactical performance.

When the Roman Legionnaire lost tactical ascendancy to the horseman, he also lost his influence upon society. When the English foot soldier regained ascendancy over the horseman, he soon recovered social, political, and moral power. As General Bruce C. Clarke has pointed out, it is no idle coincidence that the course of democracy in human history closely parallels the military importance accorded the man with his feet on the ground and the weapon in his hand.

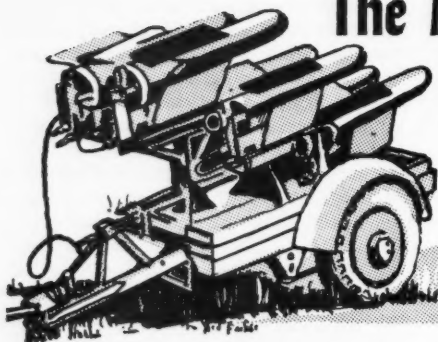
So there is profound as well as practical reason for making no mistake about the rifleman's combat role in the nuclear age. He is still the focal point—not the figurehead—of all military endeavor. Battle IS his business!

In any type of military operations, one thing which has *not* changed is the importance of the soldier's mastery of his individual weapon—fundamentally, the rifle.

In fact, this importance has increased. I have pointed out that dispersion of units will permit infiltration. Consequently, not only infantrymen but cannoneers, cooks, and clerks must be ready and able to defend themselves against sudden enemy raids. Indeed, even in the Korean War there were numerous instances when troops in so-called 'rear echelons' were called on to seize their personal weapons and beat off enemy attacks. We can expect such occurrences to be much more common in any future war.

As for the infantryman himself, the rifle is still his basic weapon. We must not forget that the military purpose of war is to achieve control over land and the people who live on it. The ultimate measure of the control which has been attained is the area dominated by the infantryman with the fire of his individual weapon. In the final analysis, the success with which that domination is established, maintained, and extended depends in large part on the soldier's mastery of his rifle.

General Lyman L. Lemnitzer



The Mutual Weapons Development Program

Lieutenant Colonel George W. McIntyre, *Armor*

MOST of us in the United States Army are familiar with the French anti-tank missile SS-11, but how many realize that the US contributed to the development of this splendid weapon?

The thorough and sometimes vitriolic public debate early this year on the adequacy of US defense posture highlighted a possible "technological gap" between the East and the West. Much furor was raised concerning US military efforts in the research and development field. Little, however, has been said regarding cooperative international research and development.

A quick glimpse into the recent past should convince even those "not-invented-here" advocates of the fact that US military services have no corner on research and development capabilities. As specific examples, World War II brought forth radar, a British development, and the Germans perfected the V-1 and V-2 which were, of course, the forerunners of our modern long-range missiles. Since that

time the French have developed the AMX tank with the oscillating turret, and the British, the steam catapult and angle-decked carrier which made jet plane operations at sea practicable.

President Eisenhower, in a television address to the Nation immediately following the launching of *Sputnik I*, commented on "... the tragic failure to secure the great benefits that would flow from a mutual sharing of appropriate scientific information and effort among friendly countries." A 1958 report, entitled "International Security—The Military Aspect," sponsored by the Rockefeller Foundation, contained the following as one of its principal conclusions:

First of all, we must pool with our allies scientific and technical information and assist in mobilizing the research and development capability of NATO both in the civilian and military field. The history of science suggests that such pooling would, in the long run, be of special importance to the United States which

Allied and United States research and development are becoming more effective through the coordination and technical assistance provided by the participating nations of the Mutual Weapons Development Program

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throughout its history has drawn heavily on the intellectual resources of Europe.

The foregoing would imply that the United States and her NATO allies have done little or nothing prior to *Sputnik* in the way of sharing the fruits of military research and development (R&D). Such is not the case. In 1954 the United States initiated the first truly international effort in military research and development—The Mutual Weapons Development Program—a small but vital part of the Military Assistance Program. This cooperative research and development program, in its first six years, has been largely unheralded and unsung. It is the purpose of this article to tell what has been accomplished in this critical field.

Background Information

The Mutual Weapons Development Program—hereafter MWDP—was established by Congress in late 1953 as a part of the Mutual Defense Assistance Program. Its broad objectives are:

- To mobilize the scientific and technical competence of our allies and add their military inventive capabilities to those of the United States for a more effective mutual defense.
- To accelerate the development of weapons and equipment of advanced design which can meet national or NATO military requirements and which can be produced within the economic capability of the countries concerned, with resultant decreased dependence on US grant assistance.
- To reduce costly duplication and im-

prove coordination in research and development between the US and her allies by providing a means for exchange of technical information.

In order to accomplish the above broad objectives certain general guidelines for MWDP project assistance have been established. The more important are:

- The US and the developing nation agree to a formula for sharing the cost of the development. The US may also provide technical advice and materials or test equipment.
- The recipient nation agrees to make all developmental information concerning the project available to the US.
- The recipient nation agrees to provide the developed item to other NATO nations under reasonable terms and conditions.

Program Management

The MWDP is administered by the Director of Defense Research and Engineering through the Director of his Office of Foreign Programs. Coordination is effected with the Assistant Secretary of Defense for International Security Affairs. The Mutual Weapons Development Team (MWDT), consisting of representatives of the Department of Defense and the three military departments, carries out the field work in Paris. To ensure that projects are worthwhile and nonduplicating, a comprehensive system of evaluation and selection is followed. Each project proposed by a participating country is evaluated by the MWDT, the US Element of Supreme Headquarters Allied Powers Europe, the US European Command, the cognizant military department in the Pentagon, and technical experts in the Office of the Secretary of Defense. Such a complete screening helps ensure that the objectives of the program are met.

Fact and Figures

The NATO countries participating with the United States in the program are Belgium, Denmark, Federal Republic of Germany, France, Italy, the Netherlands,

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Norway, Turkey, and the United Kingdom. In the six years that the program has been in existence approximately 200 projects have been approved and pursued, involving United States obligations of 194 million dollars. Although this sum appears large, it should be noted that United States financial participation has averaged 48 percent of costs taken from the point at which the US commenced support. If the expenses of the allied government prior to US support are considered, then our contributions have averaged about 36 percent. It should be noted that military research and development costs in Europe usually are but a fraction of comparable project costs in the US.

Some Tangible Results

The first fruits of the program were the establishment or encouragement of healthy military research and development programs in several of the NATO countries. Without this initial pump-priming operation, it is conjectural whether some of our allies would have been able to get started as early, if at all, in this vital field. Certainly, the MWDP resulted in an expanded research and development effort for NATO.

Initially, the major part of the program consisted of financial and technical assistance in the research and development of military end-items. Of the 190 end-item projects started, about 70 completed projects have been considered of sufficient importance to have been offered by the countries of origin to other nations through NATO. As the program expanded, a need for additional assistance was seen in the areas of research centers and exchange of technical information. In discussing some of the successes of the program, projects as outlined will be considered, that is, R&D projects, technical centers, and data exchange agreements.

Research and Development Projects

The best-known of the Army type developments is the French antitank missile

SS-11, mentioned earlier. It is considered by many to be one of the best antitank weapons in the world today. An improved version of the already proved SS-10, the SS-11 has an armor penetrating capability of defeating any known tank. The weapon can be fired from the ground, or from a vehicle, helicopter, or slow-flying plane, and is guided by an operator or pilot who controls it through wires trailed from the missile. The French initially designed this weapon as a ground-to-ground missile; thus, its designation SS which means sol-sol or ground-to-ground. In view of its proved air-to-ground capabilities, the French name is no longer completely applicable. The US Army recently announced the purchase of a quantity of these missiles for use by our own forces. France also has sold the SS-11 to several other NATO nations.

The Norwegian *Terne III*, an antisubmarine weapons system for use on small ships, has been another extremely successful development. Tests conducted by our own Navy have resulted in several of these systems being produced for further operational evaluation on US and Norwegian ships.

A third successful development has been the NATO Lightweight Strike Fighter. This developmental program resulted from a requirement laid down by SHAPE for a very light jet fighter bomber for close support of ground troops. It was to be capable of operation from dispersed, semi-prepared fields and especially suited for low-altitude operation. The Italian *Fiat G-91* was the winner of the competition among five different aircraft for the first generation light fighter. Several of the NATO countries have placed production orders for the *G-91*. The US Air Force has no stated requirement for the aircraft; however, they did monitor the project and furnished technical assistance during its stages of research and development. General Lyman L. Lemnitzer, in testifying before the House Military Ap-

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appropriations Committee in February 1960, stated:

The Army recommends the development of an inexpensive tactical fighter capable of operating from a semiprepared field. This aircraft should be specifically designed for the accomplishment of the close support mission.

The US Army now has the G-91 under consideration; it might well meet the

have joined the United States in financing this project. A major savings of US funds should result from the discontinuance of Military Assistance Program grant aid for this type of aircraft.

In addition to the aforementioned projects, the MWDP has provided financial support in the following developmental areas.

1. Combat surveillance.



SS-11

Army's requirement for a reconnaissance as well as tactical support vehicle.

One of the most promising of projects recently undertaken by the MWDP is the development of a NATO maritime patrol aircraft. Twenty-one designs were submitted in competition by various manufacturers. From these the French *Breguet 1150* was selected by the NATO Armaments Committee as the standard aircraft for antisubmarine warfare. France, West Germany, the Netherlands, and Belgium

2. Antisubmarine warfare sonar.
3. Ground environment air defense radar systems.
4. High performance supersonic engines.
5. Missiles of all types.

Technical Centers

The SHAPE Air Defense Technical Center was established at The Hague to provide SHAPE with technical advice and assistance on problems concerned with the

air defense of Western Europe. Staffed with scientists from various NATO countries, it is operated by the military R&D agency of the Netherlands Government. A most important contribution to NATO air defense was the center's recommendation for and the supervision of construction of a communications network for command and early warning. This net, which employs the technique of forward

The newly established Supreme Allied Command Atlantic (SACLANT) Anti-submarine Warfare Research Center at La Spezia, Italy, is the most recent cooperative technical center to receive MWDP support. The mission of this center, parallel to that of the air defense center, is to furnish technical advice and assistance to SACLANT in the vital area of anti-submarine warfare. Upon the occasion of



G-91 Fiat

scatter propagation, will be under the control of the Supreme Allied Commander Europe (SACEUR). Two experimental links of the system were financed by the United States under the MWDP.

A Training Center for Experimental Aerodynamics was established in Belgium pursuant to a recommendation of the brilliant US leader in the field, Dr. Theodor von Karman. This graduate school for advanced training of aerodynamicists was established in a modern facility owned and operated by the Belgian Government. It has been in operation only a relatively short time but is consistently gaining in effectiveness and value.

his retirement as SACLANT on 1 March 1960, Admiral Jerauld Wright said:

In view of the threat we face, it is mandatory that we put to work the best brains in the Western Nations in order to solve our problems cooperatively. The SACLANT Antisubmarine Research Center was established to do just that for the improvement of ASW in NATO.

Data Exchange Agreements

In his 1958 State of the Union Message, President Eisenhower stated:

It is wasteful in the extreme for friendly allies to consume talent and money in solving problems that their friends have

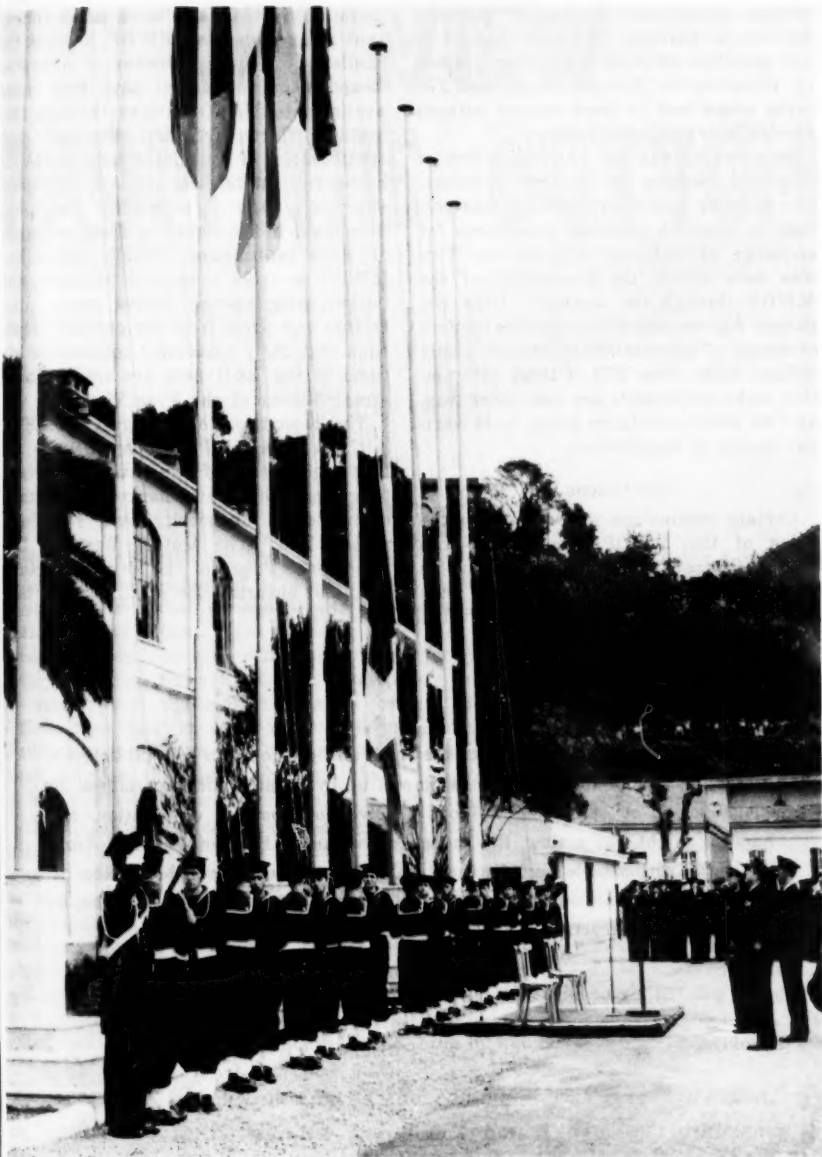
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SACLANT Antisubmarine Warfare Research Center, La Spezia, Italy

already solved—all because of artificial barriers to sharing. We cannot afford to cut ourselves off from the brilliant minds of scientists in friendly countries. The tasks ahead will be hard enough without handcuffs of our own making.

In carrying out our national policy of increased sharing of scientific information relating to military R&D, it was possible to establish practical procedures for exchange of technical information. This was done within the framework of the MWDP through the means of Data Exchange Agreements which provide for free exchange of information in narrow, easily defined fields. Over 270 of these information exchange projects are now under way, and an additional large group is in various stages of negotiation.

Conclusions

Certain conclusions with regard to the value of the MWDP seem clear. The United States and the other technologically developed NATO nations have realized the critical importance of cooperation

in military R&D, and have taken important steps under the MWDP to meet the challenge. A goodly number of advanced weapons and equipment have been made available to NATO nations through this mutual effort. Technical research and study centers of undeniable value to NATO have been established and are operating effectively, and a promising start has been made in the matter of freer exchange of R&D information. Finally, since the MWDP is truly a mutual program, the participating nations derive great satisfaction and pride from the certain knowledge that their successful cooperative efforts in the R&D field are leading to a strengthening of the Free World.

The Department of the Army Pamphlet, *A Guide to Army Philosophy*, lists as the first requirement of our national military program "The maintenance of military technological superiority over the Communist bloc." The Mutual Weapons Development Program is one important means of ensuring the attainment of this objective.

We can, here at home, arm to the teeth and yet go down in total defeat if we let the rest of the world be swallowed up by an atheistic imperialism. By abandonment of struggling millions to lives of hopeless desperation, rich America might, for a time, live more extravagantly. But not for long. For a just peace, dependable security, and real progress were never bought by destructive weapons and hardhearted selfishness but rather by education, by training, by constructive works—by cooperation.

President Dwight D. Eisenhower

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THE VIEW FROM THE BOTTOM



Elihu Rose

IN ACCOMPLISHING his mission the commander avails himself of all the apparatus of war that modern armies possess. But his arsenal also contains one weapon which is unique, which none may bring into being but himself. This weapon is morale—not the morale inspired by “Ma’s apple pie” or some vague call to patriotism, but rather that rare spiritual bond between the commander and those it is his privilege to command.

Certainly, commanders have been successful without this very personal approach and in the “moment of truth” it is, of course, strategic and tactical ability for which there is no substitute. But in every battle, no matter how well-planned, there remain the variable and unknown quantities, those times when men are called upon to produce that extra effort which escapes definition. If the

commander is to practice his art on the highest level, he must call forth this effort by the very projection of himself.

A good example of this elusive quality is provided by General Philip Sheridan in his legendary ride from Winchester to the Battle of Cedar Creek—an episode recorded not only in military annals but in the national folklore as well. Sheridan’s forces had been driven from their bivouac by a dawn surprise attack and within minutes two disciplined Army corps disintegrated into a leaderless mass in disorderly retreat.

The effect of Sheridan’s sudden reappearance on the demoralized fugitives was a sight witnesses would recall all their lives. The driest regimental history glows with eloquence in describing the contagious excitement of the scene. Riding up and down the line, Sheridan rallied

Projection of his personality is the commander’s “secret weapon.” To be successful in battle, the commander must develop proficiency in this projection of personality just as the marksman develops his aim

the troops and led them in a charge that all but ended the Shenandoah Campaign of 1864. Sheridan himself was the key. The battle had been won by the man, not the tactician.

Changes In Warfare

The years following the Civil War saw changes in technique and doctrine that altered the very fabric of warfare as it had been practiced up to that time. Nevertheless, the principle illustrated by Cedar Creek remained valid. In 1917 the catastrophic losses suffered during General Nivelle's spring offensive resulted in the complete demoralization of the French Army. A condition of near or outright mutiny existed in no less than 54 divisions, involving three-quarters of a million men.

With the French Army thus impotent as a military instrument, General Pétain was appointed to the command. The measures he took to rehabilitate the Army's shattered morale were drastic, but their success constituted a victory comparable in magnitude to the greatest ground advance. The punishments themselves reveal the gravity of the situation: numerous executions and banishment of more than 100 ringleaders to overseas prisons. But the final restoration was due more to the velvet glove than to the mailed fist. For months Pétain toured the front appearing before regiment after regiment—talking, seeing, and being seen. By the time he had inspected a hundred divisions, the Army's confidence in itself had been restored and it was at least on the road back toward its previous effectiveness.

Most assuredly, Pétain and Sheridan were men of different mold, and the bat-

tlefields upon which they led their troops were as far apart in military concept as their distances were geographically. Sheridan made a glorious gesture to a few thousand men that turned the tide in an afternoon; Pétain's appeal to hundreds of thousands took literally months of the most laborious work with results that were far less immediately recognizable. But in spite of these differences, both men sought the same end, and both achieved it through the sheer force of their personalities.

Image of the Commander

Like theatrical audiences, the military formation must be approached by way of the mass personality. The commander's success in establishing rapport will, thus, depend upon the *image* of himself he is able to create in the large number rather than on the personal impression he conveys to the comparative few. There is no formula for image; it varies as people themselves vary. Some commanders, for example, have used crude language in establishing the personality of a "regular guy," while others have attempted the same thing with a startling lack of success.

An Order of the Day or a spirited phrase spoken on the eve of battle might carry with it all the grandeur of Nelson's signal at Trafalgar, but often the same words from a different mouth fall flat. The lone word "Nuts!" spoken by General McAuliffe at Bastogne has entered the history books not because of its simplicity or magnificence, but because, whatever qualities it had, it apparently had them at just the right time and from the right person.

Considering the many ways by which this emotional relationship can be established, the one common denominator is the concept of recognition. During World War II Field Marshal Sir William Slim once addressed some troops saying:

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I was in the ranks myself once, and in those days I was always being shoved around by people I never saw and about whose sanity I had the gravest doubts. Well, I want you to know what I look like, not because I think I'm any oil painting, but because I think you ought to know the bloke issuing the orders. Then you'll know who to blame for them.

Today, such a thought hardly seems unusual, but it represents a remarkable step

mandy Invasion was undoubtedly due in large measure to the continual troop inspections carried out by all the senior commanders. These clearly indicated to the troops the interest and concern of their leaders and proved well worth the enormous expenditure of time.

A recently published history of Major General Frank D. Merrill's *Marauders* relates a minor incident which, nevertheless, emphasizes this aspect of troop psy-



Field Marshal Bernard L. Montgomery

Culver Pictures

forward since the First World War when senior officers were not always so accessible. Field Marshal Montgomery states in his *Memoirs* that during his entire service as a junior officer on the Western Front he never once saw the British Army commanders, Generals French or Haig.

By World War II the rule that a commander should be known by his men had become axiom. The satisfactory state of morale existing on the eve of the Nor-

chology. A body of troops approached General Stilwell's headquarters after an arduous 140-mile march, anticipating the honor of exchanging salutes with their theater commander. Stilwell's failure to appear was doubtless an oversight, but it was noted by the troops and in the words of one of them, "the chance for an inexpensive gesture that would have repaid him in the days to come." Nothing is more damaging to the morale of com-

bat troops than the impression that a critical event in their lives is regarded with indifference by the very leaders responsible for their safety.

Distinguishing Trade-Marks

Many commanders have found that distinguishing trade-marks have aided in establishing both recognition and rapport.

But the use of the trade-mark is not without its pitfalls. It must be judicious or it will be degraded into a caricature.

Field Marshal Montgomery's use of a double-badged tanker's beret is a classic example of the more successful military signature. His memoirs make clear the deliberation with which he set out to find an appropriate symbol—first using



General George S. Patton, Jr.

Culver Pictures

The custom probably is as old as warfare itself. A sprig of broom worn in the helmet of Geoffrey of Anjou gave the name "Plantagenet" to an entire line of English kings.

In World War II the sight of General Patton's ivory-handled revolver became so well-known that he is reputed to have told a soldier, "If I were seen without this gun, no one would know me. I might just as well go without my . . . pants!"

an Australian hat, then changing to a tank beret, and later adding an extra cap device as a final distinctive touch. In his own words he set out to be "not only a master but a mascot."

Although the essence of morale is emotion, General Montgomery analyzed it intellectually, first recognizing the need and then fulfilling it. That his personality is also particularly well-suited to this approach in no way detracts from the basic

soundness of his attitude, and the restoration of morale to the shattered Eighth Army on the eve of the Battles of Alam Halfa and El Alamein will rank as one of the finest military achievements.

Pitfalls

Any discussion of this aspect of common personality must inevitably come to General George S. Patton, Jr. Upon his death General Patton was elevated to



Wide World

General Joseph W. Stilwell

that semilegendary status which makes any objective evaluation a risky undertaking. His admirers claim that his meticulous and somewhat theatrical military dress helped achieve a great rapport with his men; his detractors ridicule it as pointless affectation and claim less effective results. As in most such cases the truth probably lies somewhere in between.

When questioned by a friend about his "fancy regalia" Patton replied:

I want the men of the Third Army to know where I am and that I risk the same dangers they do. A little fancy dress is added to help maintain the leadership and fighting spirit I desire.

The ultimate success of his program might be open to closer questioning. General Omar N. Bradley, for one, has written that certain chapters of Patton's career were failures in this respect. General Bradley points out that, in Africa at least, Patton "failed to grasp the psychology of the combat soldier. (He) irritated by flaunting the pageantry of his command." This simple observation illustrates the pitfalls of this device. Troops like to see a smartly turned out uniform. But it contrasts poorly with the filth of combat fatigues, and confidence might easily turn to resentment when such a comparison is at hand. The timeless psychology of the combat soldier was described by Shakespeare 300 years ago:

*But I remember, when the fight was done,
When I was dry with rage and extreme toil,
Breathless and faint, leaning upon my sword,
Came there a certain lord, neat, and trimly dressed,
Fresh as a bridegroom . . .
for he made me mad
To see him shine so brisk and smell so sweet,
and talk . . .
of guns and drums,
and wounds,—God save the mark!—*

Dress and Behavior

On the other hand, commanders who have used the "one-of-the-boys" approach are by no means a new phenomenon. General Grant, for example, rarely wore anything more formal than a private's blouse, and "Old Rough and Ready" Zachary

Taylor carried the process to its ultimate conclusion by omitting military uniform entirely.

More recently General Stilwell and British General Orde Wingate were both of this school. The two men, so similar in many respects, reflected their distaste for all military formality by casual adaptations of the prescribed uniform. Stilwell carefully cultivated the appearance of "The Plain Old Soldier" and in the field usually avoided displaying any insignia of rank. In time, his battered old campaign hat came to be as well-known as General MacArthur's corncob pipe.

Wingate's mark of individuality took the form of an ancient sun helmet vaguely reminiscent of Kipling's India, and he added to the effect by wearing a patriarchal beard. Such affectations of dress and behavior, whether conscious or not, helped make these two generals very real to their men. But this particular approach still holds great risk. It requires not only a very special personality but complete sincerity as well. Here, let actors beware, for troops are quick to recognize any sham and mark it as hypocritical condescension.

Conclusions

The human heart is then the starting point in all matters pertaining to war

... the best masters are those who know men best, the man of today and the man of history ... let us then study man in battle for it is really he who fights.

These words of Colonel du Picq were written in the 1870's, a period when warfare was in scientific revolution and when all the military verities were being re-examined. We are once again at a time when technical emphasis threatens to obscure some of the basic truths of men in battle. Basic truths, by definition, are those that transcend local considerations. Thus, the principles governing the emotional state of a man armed with a musket are equally valid for the same man armed with a rocket.

But morale, stemming as it does from emotion, is a vague and inconsistent thing. Above all, it is a personal thing and therein lies the commander's opportunity. The response of the troops to the projection of the commander's personality is his own "secret weapon" and he must develop his proficiency with it just as a marksman develops aim. Field Marshal Montgomery has written that the spirit of the warrior is the greatest single factor in war. The commander must recognize the obligation this places upon him, and as he mobilizes the man he must also mobilize the spirit.

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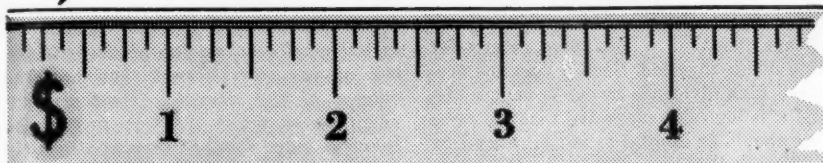
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If You Don't Like the Mess . . .



Colonel Lynn D. Smith, Infantry

**Office of the Assistant Chief of Staff for Reserve Components,
Department of the Army**

THE most colorful display in the halls of the Pentagon is the Army Flag flanked by its 145 campaign streamers. From the red and white of Ticonderoga in 1775 to the blue and white of Korea in 1953, these streamers present a vivid index of the role the Army has played in the history of the United States.

Nearly every campaign represented by this array of colors has had its moment when some segment of the Army was faced with annihilation; some situation when a leader had to tell his men, as did a regimental commander at Bastogne, "This is our last withdrawal. Live or die, this is it."

Between these hours of glory the Army has carried on a fight for its life under much less glamorous conditions. This fight can be compared to that of a patient in an oxygen tent in which the attendants alternately turn the valve on and off. The "oxygen" in this case is money.

There have been no bugles sounding the call to arms for this contest. Instead, there have been reams of regulations, letters, and memos relating to efficiency, budgets, and waste. "Follow Me," has been replaced by such deathless prose as,

"the methodology for directly and continuously relating program, budget, accounting, manpower, and supply management systems in administering the nontactical operations of the Army."

The challenge to master this methodology may not stir the blood of the man wearing the Army Green, but it, too, is a call to arms. If the man in uniform doesn't heed the call, who will?

This is not a new challenge to the Army. It has existed between each of the eight major conflicts that have occurred since the birth of the Republic, and it has overshadowed the needs of the Army during the other 82 times it has had to take the field. An even 100 wars, expeditions, campaigns, occupations, and other disturbances have required the use of the Senior Service since 1775.

Index of Adequacy

Simply stated, the problem is that during periods of so-called peace, people fail to understand the value received for the dollar spent. Maintenance of an adequate Military Establishment often is regarded as a questionable drain on the Nation's pocketbook. As a result, the Army's ade-

The cost of maintaining an adequate Military Establishment during peacetime is regarded as a burdensome drain on the Nation's pocketbook. The distinction between spending and investment is overlooked

quacy often suffers through lack of funds. The distinction between spending and investment is overlooked.

Quite properly, those who pull the purse strings insist on a maximum return for each dollar invested. Such a rule has produced high dividends in our economic life, and it is logically suggested that the same rule should be applied to our military life. Emphasis has been placed on the introduction of business management procedures and techniques into the administration of our uniformed services in an attempt to make sure that resources are not wasted.

Historically, the Army hasn't met this challenge too well. For decades it has been attempting to state its concept of adequacy in terms other than the dollar sign. True, the Army has submitted its annual budgets, but its defense of these estimates has been couched in military terminology such as capability studies, minimum essential force levels, and risk statements. During these decades the Nation has failed, tragically, to understand the Army's needs until it was too late. Or, perhaps, the Army has failed to present a logical, understandable brief of its case.

Because the dollar sign is not the language of the field manual, and because business management techniques have been imposed by sources outside the Army, the man in uniform finds such concepts incompatible with military procedure. The soldier has tended to turn his back on these matters. In many cases he has hired civilian experts to administer the nontactical operations of the Army.

Civilian Operators

In the past, reliance upon civilian operation of so-called nontactical operations

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often has been regarded as less than satisfactory. In 1818 Secretary of War Calhoun told Congress:

The defects of a contract system are so universally acknowledged that nothing can appear more absurd than that the success of the most important military operation on which the very fate of the country may depend, should ultimately rest on men who are subject to no military responsibility, and on whom there is no hold other than the penalty of a bond.

The US Army has not been unique in this respect. After centuries of dependence upon civilian commissaries to feed men in battle, the supply of food finally achieved recognition as being a matter of purely military concern. It wasn't until 1880, however, that the British Army led the way in forming an Army Service Corps and placed supply arrangements directly under military control. Not until World War I could the American and British Armies in the field depend upon a supply and transport system that precluded hunger being a constant companion of the man in battle. Military lethargy, rather than civilian incompetence, was the probable cause for the long delay in establishing what is now accepted as an essential military function.

Korea in July and August of 1950 resulted partially from the inability of the Army in the years immediately following World War II to express its requirements in terms the Nation could understand—until it was too late. During the period 1946-50 the Army had once again failed to impress upon the "powers that be" the importance of peacetime maintenance—maintenance in terms of constant and rigorous training; maintenance in terms of continuing modernization of equipment.

The Army knew these things were necessary, but it was unable to state its requirements in language that could be clearly understood by those who controlled its destiny—the language of dollars and

cents. It is the language of a common denominator in which a "handle" can be placed on nebulous concepts such as strategy, force structure, combat readiness, calculated risks, and reckless gambles. It is a language that the management of every corporation in the United States has long since learned as a means of presenting its case to its stockholders and its creditors. It is a methodology that Congress (as a result of the Hoover Commission studies) has insisted be adopted by the military services.

Today, the Army has a management system characterized in terms such as programs, budgets, financial plans, industrial funds, and consumer funds. It is a complicated terminology, not yet understood by the average professional soldier. As a result he condemns it and depends upon others to translate his wants into terms of money. When the money isn't forthcoming he condemns the others (whether they be military comptrollers or civilian analysts) as being incompetent, condemns the system as being useless, and yearns for the "good old days." He, of course, completely overlooks the fact that the "good old days" produced such horror stories as the burning of Washington, Bull Run, Tampa in 1898, and Taejon in 1950, to mention but a few.

Army Maxims

The new system, however, still doesn't produce all the things the soldier wants. What, then, is the answer? Two time-worn Army maxims come to mind:

1. Never volunteer.
2. If you don't like the mess, you become the mess officer.

For those who choose the first solution, there is ample historical precedent to indicate that the soldier should confine his talents to the purely military aspects of war, leaving to civilians the politico-economic factors of the subject. Clemenceau expressed a view much closer to American tradition than to French when he said

that war is too important to be left to soldiers. Before him, Von Clausewitz had rendered his famous dictum to the effect that war is but a continuation of politics by other means. Before that, our own Thomas Jefferson had highlighted the American fear of the "Man on Horseback."

On the other side of the coin, the dangers of overemphasis of civilian control of military affairs have been brought to the attention of the American public repeatedly: sometimes in words of lament such as President Madison's remarks when he viewed the ruins of the capital in 1814, "Leave to the military functionaries the discharge of their own duties;" sometimes in words of caution such as voiced by General MacArthur when (as chief of staff) he addressed the War Policies Commission in 1931, "In all we do and in all we say with reference to preparedness, and to policies to be pursued in event of war, we must never overlook for one moment the fact that while efficiency in warmaking is desirable, effectiveness is mandatory."

To the Army officer whose attention has been focused on the problems of training and morale and the evolution of tactics, it may seem that the politico-economist should confine himself to telling the Army how much it can have to spend; that the Army should then take that amount and do the best it can with it. "Why get excited?" says the man in green. "No Army ever had all it wanted in the way of money. What's different about the situation now?"

The difference is that under current concepts of programing and budgeting, the man who manages the fiscal aspects of the installation (whether the installation be a single post or the entire Army) will inevitably be the one who determines not just how much money will be spent, but how many men will "be on board"; what the missions of the various com-

ponents of the force will be; what the force structure will be; and what equipment will be provided.

These are some of the purely military factors that are influenced by programs, financial plans, expenditure ceilings, cost and performance reports, and a dozen other documents and procedures that are unfamiliar to the average officer. Because the language is strange, it must be translated by hundreds of analysts, most of whom are not in uniform. There are schools, of course, to teach the soldier this new language, but it is the old story of leading a horse to water. Before the tactician can learn this new technique of management, he must want to learn.

Is there an alternative? If the professional soldier, through lack of concern or lack of knowledge, abdicates control of the Army to the economist or to the accountant, who is at fault if the Army cannot accomplish its mission—the soldier or the economist?

Soldier Economist

If the economist and the accountant can become strategists and tacticians, why should it be so difficult for the soldier to become an economist or an accountant? A few years ago it appeared that the soldier might have to abdicate control of the Army to the scientist. When the implications were realized, the Army school system was put to work to take the mystery out of applied technology. It is absurd to believe that an officer corps that has learned to analyze the concepts of nuclear energy, and the ramifications of its employment on the battlefield, should have to depend upon professional analysts to handle the grocery store arithmetic of the modern management system.

Historically, most of today's management concepts stem from military organizations. The first management groups were the officer corps of armies which preceded the modern corporation by 3,000 years. The basic concept of economy was

neither evolved by, nor is it the exclusive possession of, the economist. "Economy of force" has been a recognized principle of war since men started throwing rocks at one another. The young platoon leader who must "take that hill" with what he has, can provide dynamic source material for a thesis on utilization of resources, supply and demand, and the law of diminishing returns.

If, as Clemenceau might have said, the determination of the objectives of war is too important to be left to soldiers, it is equally true that the military technique of attaining those objectives is too important to be left to civilians. The professional soldier should quit complaining about the "mess," and take it over and run it as a military operation.

Profitable Organization

To convince both the soldier and the civilian as to the propriety of such a move, a few fables may have to be scrutinized. For example, the man in green has objected to the imposition of business methods into his way of life because, he says, "the Army was not established to make a profit." It is time that the Army—and everybody else—become aware that the Army is one of the most profitable organizations in the national economy.

The other services, of course, are included in any discussion of national security. Because the Army by its very nature gives primacy to men over machines, it is appropriate to use the Army as the common denominator in the broad sense of military forces. In terms of dollars and cents, in terms of profit and loss, where does the Army fit into the Nation's business life? The answer is easy—it provides insurance that the Nation will still have a business life tomorrow and the next day. Unlike the average commercial insurance program which pays off only after the "fire" has occurred, the security insurance program can (if properly managed) prevent the fire from starting, or

keep it from getting out of hand if it does start.

Of even more compelling interest is the fact that in this particular insurance business, the policyholders and the owners of the insurance company are one and the same. In peacetime, at least, the vast majority of the dollars paid as premiums go back to the people who pay the bill. This reasoning may be hard to reconcile with some commentaries on the subject, but it isn't often that such editorials follow the military dollar to its ultimate recipient.

Where does the Army dollar go in peacetime? In very broad terms, one-third of it goes for the pay of its own people, one-third of it goes for the cost of operating and maintaining its current organization, and one-third of it goes for the cost of designing, and then buying, the hardware that it needs to meet tomorrow's contingencies.

First, let us consider the money that goes for the pay of the Army. It goes right back to the policyholder, doesn't it? After all, the members of the Army and their families are Americans. They aren't mercenaries who are sending their pay home to some foreign land. They aren't being given a free ride either. Remember, the next time the question is raised, the soldier pays his income tax on the same form and by the same formula as does the man in the gray flannel suit. During 1959, for example, the Federal Income Tax withheld from the members of the Active Army totaled \$267,505,000. If to this sum is added the amount of taxes paid by the members of the Army's Reserve components, and the amount paid by its civilian employees, it will be seen that the Army has a respectable monetary investment in its own business.

High Employment

What about the money that goes for operation and maintenance (O&M)? The list of items covered by the Army's annual O&M expenditures is vast and it

would be improper to attempt to summarize it in one or two sentences. In general, however, it may be stated that this money is spent for training; for the purchase of items other than major hardware; and for the upkeep of the Army's equipment and its physical plant. In this portion of the budget, the money does not go to soldiers; it reverts directly to the civilian economy. A portion of this O&M money ends up in the civilian economy of our allies. What do our allies do with these dollars? They spend them in the United States. The largest proportion of O&M money, however, goes directly into the US civilian economy where it contributes to the Nation's high employment and investment dividends.

The remaining third of the Army budget is applied to research and development, procurement of equipment, and military construction. Again, it is the United States civilian economy that is the recipient. Research and development (R&D) money goes almost entirely into the pay of people, most of whom work for civilian agencies. In addition, the Nation gets an added bonus from R&D expenditures due to the very high percentage of research results that are applied eventually to raising the standard of living. As for the military hardware, although the Army still has a few arsenals, the largest part of its equipment is produced by the same civilian corporations that manufacture consumers' goods. The money spent for military construction goes to the same contractors who build for the civilian economy.

Even a cursory analysis indicates that in times of peace the Army's dollar is not money down the drain. Instead, it is money that can be related directly to the economy of the Nation. When added to the consideration that a dollar spent for military readiness may save a thousand times that amount if it deters war, it becomes apparent that the Army is an

important profitmaking adjunct of the Nation's economy.

The soldier-turned-economist might well ask the economist-turned-strategist why this profitable insurance program isn't related directly to the value of the property being insured. If a strictly materialistic view is taken of the value of the United States, the price tag can be assessed in terms of the annual Gross National Product (GNP)—now at or over the \$500 billion mark. For many decades this GNP has appreciated each year, but the insurance policy hasn't necessarily kept pace.

In the civilian economy when a man buys a house he takes out fire insurance, and the amount of insurance is related to the value of the house. When he is lucky and the value of his house increases he must increase the amount of his policy if (even as a freshman economist) he is to protect the value of his investment. The same line of reasoning might have application to the national "house."

Familiar Concepts

If, after considering such facts of life, the soldier decides not to abdicate control of the Army, he must orient himself to his new responsibilities. This will require the officer to add one more subject to his already heavy curriculum. Actually, the bark is worse than the bite. Despite the imposing glossary of the command management system, most of the study will have to do with terminology. The basic concepts of modern management are almost the same concepts of command and administration that the professional officer started cutting his teeth on when he was a second lieutenant.

Having accepted that there is no point in fighting the problem, the problem then becomes intriguing. Financial management is, of course, but one facet of the over-all system. It cannot be denied, however, that it is the most powerful element of the scheme. Despite the dry as dust terminology that wraps itself around

budgeting, an investigation of a budget can be as interesting as a stroll through a hardware store.

For instance, in just one page of an O&M budget program may be found such facts as: a pair of divers' shoes costs \$31; a set of medical equipment for a 400-bed evacuation hospital costs \$110,560; and a cover, cap, service, waterproof costs \$0.02.

More important from the soldier's viewpoint, a study of budgets reveals the tremendous difference between the cost of things (which are relatively cheap) and the cost of the services rendered by people (which are expensive). When he ponders this, the soldier begins to visualize new applications of the old military principle of "economy of force."

Once he has decided that being the mess officer is not only necessary, but that also it can be fun, he may see the advantage of using the dollar as the common denominator to relate the various factors that pertain to his business. He may find ways to utilize resources that have been gathering dust in the storeroom. He may find ways to explain his requirements to others in terms the others can understand. Usually, these "others" are the official representatives of the public; analysts in the Department of Defense, analysts in the Bureau of the Budget, and members of the United States Congress.

These people are extremely well-informed, they too are patriots, and they are trained to take an objective view of the annual requirement for billions of dollars to support the defense budget.

The soldier, on the other hand, takes a subjective view of the matter. When the chips are down he, and he alone, will bear the responsibility for the use of the things those dollars will buy. When the test comes, no supplemental appropriation by Congress, no reapportionment by the Bureau of the Budget, and no analyst's review of a cost and performance report will win a lost battle or give life to

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dead men. Because this dreadful responsibility cannot be shared, it becomes the soldier's added duty to participate actively and forcefully in any system by which these "others" can better understand the Army's needs.

Conclusions

As they advance into the closing decades of the 20th century the military services are finding that all of the complexities of the space age are not confined to putting a man on the moon. The Army is involved for the first time in its history in seriously attempting to prevent war by the strategic deployment of combat-ready forces. It is finding that the maintenance of peace by deterrence offers a challenge that in many ways is more difficult than the challenge of combat.

As pointed out by the authors of *Economics of National Security*: *

The paradox of our security program is that, if successful, there will be no adequate yardstick to refute arguments that the program was excessive. If completely

successful, there will be no yardstick of military victory such as we possessed in 1918 and 1945. Complete success will be measured by preservation of the free world short of war. Even a victory in a total war of survival, which at best would be a costly one, would be only a partial success. When the hazards are so great, there is no excuse for taking chances that can be avoided.

* * * * *

. . . Finally, no one knows what constitutes an adequate security program unless global war occurs—in which case the program is proven inadequate, since one of our objectives is to deter aggression.

Because of the staggering dollar requirements to support this paradox, the Army and the other services must operate under a new system to account for and to justify their needs. The Army officer must become the master of this system, not its slave. He is the only one who can properly equate budgets and cost reports in terms of men as well as dollars. He is the one who must translate dollars into combat effectiveness. He, and he alone, has to be the mess officer.

* George A. Lincoln, William S. Stone, Thomas H. Harvey, *Economics of National Security*, Prentice-Hall, Inc., New York, 1954.

I want an America made up of people who recognize that the security of the Nation is the responsibility of each individual citizen—not just in some figurative sense, but in actual grim reality. In order to preserve our freedom, we must prove that a free people can, through voluntary effort, continue to accomplish even more than the regimented society of the Soviet Union. The Soviet system requires people who can be managed. In contrast, a free society requires people who are capable of managing themselves. We must not allow the desire for comfort or convenience in any aspect of life to assume greater influence in our plans and activities than the desire to protect our way of life faithfully and well.

Secretary of the Army Wilber M. Brucker

MILITARY NOTES

AROUND THE WORLD

UNITED STATES

R&D Channel Strengthened

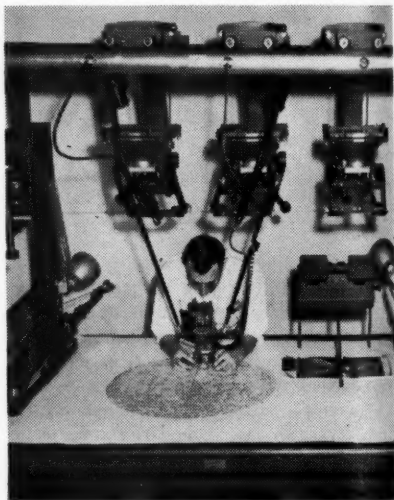
The Chief of Research and Development, Department of the Army, has been given increased authority over all of the Army's research and development functions and activities under a recent directive of the Secretary of the Army.

Control over the research and development functions within each of the technical services will be exercised by the Chief of R&D through the Chiefs of the Technical Services. This line of authority is parallel to the authority and responsibility vested in the Deputy Chief of Staff for Logistics, for logistics matters within the technical services.—News release.

Engineers Produce Moon Maps

The US Army Engineers, assisted by the US Geological Survey of the Department of the Interior, have produced a map study of the moon's surface for use in selecting landing sites on the moon for further scientific investigation. The study consists of three diagrams, each 36 inches in diameter, which show the visible face of the moon. Each diagram is accompanied by an explanatory text. One diagram shows the physiographic regions of the moon, one is a generalized photogeological map of the moon, and the third

depicts the prominent lunar rays which are believed to be splashes of crushed rock resulting from the impact of large fragments thrown out by meteoric impact. The

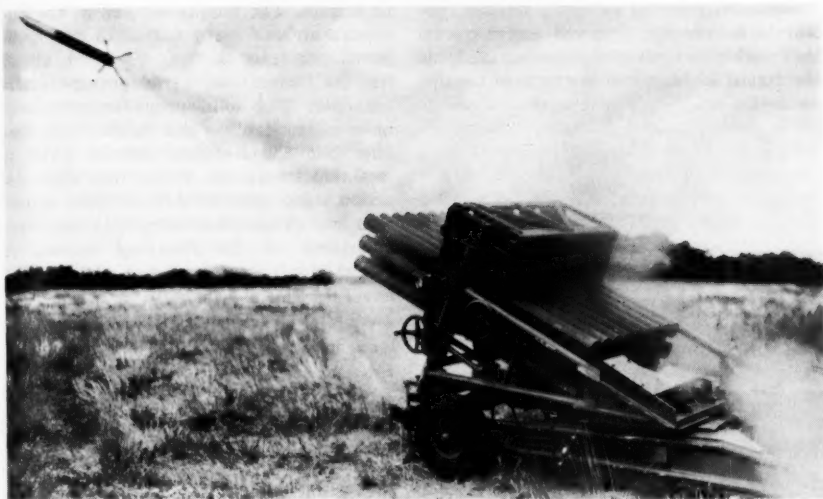


US Army

Map service technician plotting moon data

study also provides information required for the design of telemetering instruments and a lunar surface vehicle.—News release.

New Chemical Rocket System



US Army

Multiple rocket launcher

A new multiple rocket launcher system has been announced by the United States Army. The system permits a crew to mount 45 rockets on an aluminum launcher, make necessary electrical connections, and fire in less than 20 minutes. Solid-fuel, six-foot four-inch, 115-mm *M-55* rockets are fired from their own shipping tubes and are designed to be used as an area weapon for the dispersal of chemical agents. The rockets are stabilized in flight by foldable fins which open automatically when fired. When assembled the entire system can be manhandled for short distances by its crew. It can be transported by helicopter or mounted on a 2½-ton truck. Normal artillery fire control techniques are employed with the weapon.—News release.

Improved 'Sergeant' Missile

A modified version of the United States Army's *Sergeant* missile system now under development will have a range con-

siderably in excess of that previously announced and will probably overlap the announced 100-mile minimum range of the *Pershing* missile.

The *Sergeant*, which will replace the six-year-old *Corporal* system, is a solid propellant supersonic surface-to-surface missile with a designed range of 75 miles. The erector-launcher for the *Sergeant* is constructed of a new light-gauge "T-1" alloy steel, is readily air transportable, and can be towed by a tractor or a full-tracked vehicle. Capable of employing either a nuclear or conventional warhead, the accuracy of the *Sergeant* missile is controlled in flight by drag brakes which compensate for the variation in burning time of the solid propellant motors. The drag brakes are in the form of fins or vanes that extend and retract from the body of the missile during flight. They are actuated automatically to correct the path of the missile on its way to the target.—News item.

'Pershing' Mobility Demonstrated

The ability of the *Pershing* missile system to be readily deployed anywhere in the world was clearly demonstrated by the recent airlifting of a complete missile



US Army

Pershing missile arrives in Europe

to Europe. The missile arrived at the European airbase ready to roll to an unprepared site from the transport aircraft on its self-contained transporter-erector-launcher. The solid propellant *Pershing* is smaller, lighter, and much more mobile than the *Redstone* missile which it is slated to replace. Reliability, short reaction time, versatility in all types of terrain and climate, and simplicity are characteristics of the *Pershing* system. A recent highly successful test at Cape Canaveral, Florida, included launching the weapon for the first time from its mobile launcher. Previous tests had been from fixed launcher installations. Although the nominal design range of the *Pershing* is announced as 100 to 300 miles, unofficial information indicates that it is effective from 100 miles up to 800 miles. It is also reported that with modifications the weapon can become a highly mobile land-based missile effective up to 1,200 miles. —News item.



US Army

Pershing mobile transporter-erector-launcher

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Capabilities Added To 'Nike Hercules'

The United States Army's high-performance, surface-to-air, *Nike Hercules* missile has taken on new performance capabilities as the result of major improvements announced in recent weeks.

An installation kit which provides mobility for the missile and its launcher and frees it from static emplacements has been developed and scheduled for early production. Designated the *M94 Field Installation Kit*, it consists of a blast deflector, hydraulic jacks and outriggers,

the 100-mile range and the killer missile from the southern end. Intercept occurred about 32 miles from the southern site. The two missiles closed at a speed in excess of Mach 7. In previous tests the *Hercules* destroyed a larger and less difficult *Corporal* target missile (MR, Oct 1960, p 66).

Nike Hercules is a solid propellant air defense missile with a range in excess of 75 miles and an altitude capability of over 150,000 feet. It has been operational since 1958. More than 1,000 *Nike Hercules*



US Army

Nike Hercules on new ready-round mobile launcher and transporter

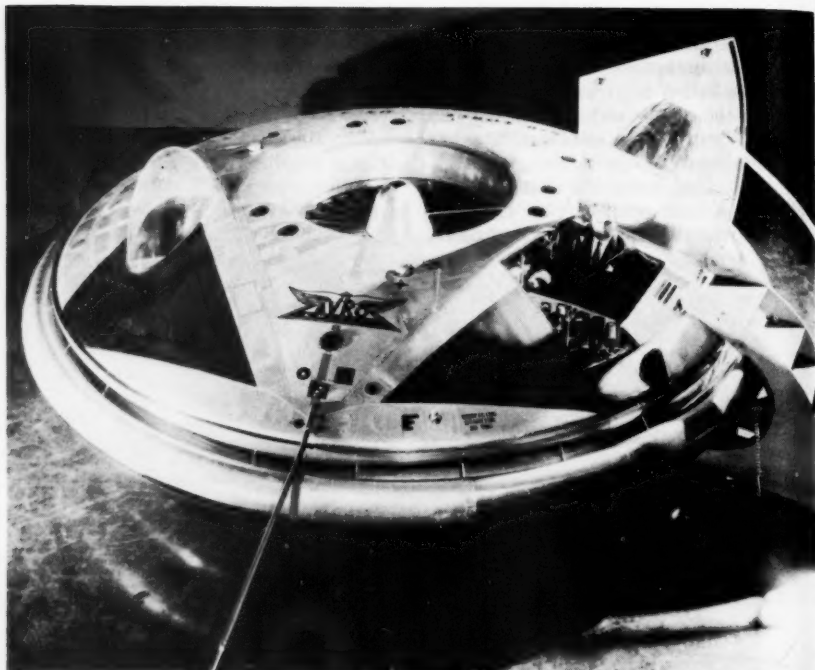
and a removable undercarriage for transporting the launchers. Radars and control vans currently in use are on mobile mounts.

Tests at the White Sands Missile Range, New Mexico, have clearly demonstrated the improved effectiveness of new long-range radar and ground control equipment which has been developed for the *Hercules*. In these tests *Hercules* have successfully intercepted and destroyed other *Hercules* missiles as high as 19 miles above the test range. The target missile was launched from the northern end of

missiles have been shipped to over 100 launching sites throughout the Free World since that time.

Further improvement in the air defense afforded critical areas of the Continental United States is anticipated as the result of a new fire coordination system now being built. The new system will be used in smaller defense areas than those now covered by *Missile Master* units and like the *Missile Master* will be tied into other control systems, integrating local air defense with the entire North American air defense network.—News item.

'Avrocar' Flying Saucer



Flying saucer vehicle

US Air Force

Security wraps have been withdrawn slightly from current research and development work leading to a saucer-shaped air vehicle for use by the United States Army. Designated the *Avrocar* the vehicle is designed for low-level tactical flights and is reported to employ the air-cushion principle (MR, Oct 1959, p 80 and Jan 1960, p 72) for lift off and ground hover. Ground tests of the prototype vehicle have been underway since last November and several low-level hovering flights have been made. Two of the *Avrocars* have been produced by the Canadian manufacturer to date. Unofficial sources have indicated

that the new air vehicle may have a top speed of 300 miles per hour and a range of 1,000 miles.—News item.

Mechanical Mechanic

The Army is employing the first "computerized checkout system for automotive vehicles" at its Frankfort Arsenal in Philadelphia. The system uses an electronic computer to check the vehicle, diagnose its mechanical deficiencies, and prescribe repairs. Currently in use only as a depot installation, a portable version of the computer checkout system is to be developed for field use.—News item.

Army To Take Over Alaskan Base

The United States Army activities now located at Eielson Air Force Base in Alaska will be consolidated with those at Ladd Air Force Base. Ladd will come under Army control on 1 January 1961 except for a hospital and certain other minor activities which the Air Force will continue to operate.

Involved in the consolidation are elements of the 1st Battle Group, 9th Infantry, which are located at Eielson. The Army's *Nike* air defense batteries there will remain in place.—News release.

Basic Research Grants

The Army has awarded 24 grants to scientists working at 21 research institutions, mainly universities, to finance basic scientific research. Totalling over \$600,000 in value, the grants are a part of a new program to support basic research by non-profit institutions.—News release.

LOGEX-61 Scheduled For May

LOGEX-61, the Army's annual logistical command post exercise, will be conducted at Fort Lee, Virginia, in May. An estimated 6,000 persons are expected to participate in the exercise.—News item.

STRAC Demonstrates Its Flexibility

The maneuver and exercise schedule for the United States Strategic Army Corps for the first half of 1961 is designed to prove the versatility of the Army's mobile striking force. Starting with Exercise *Snow Chute* in January through Exercise *Mohawk Arrow* in May at Camp

Drum, New York, STRAC troops will participate in seven major field exercises which will take them from the arctic ice of Alaska to the jungles of the Panama Canal Zone. The accompanying chart outlines the planned exercises.—News release.

STRAC Field Exercises

Exercise	Location	Date	Troops Participating
<i>Snow Chute</i>	Camp Drum, New York	January-February	18,000
<i>Willow Freeze</i>	Alaska	January-February	3,500
<i>Panama</i>	Canal Zone and Fort Sherman	Early in 1961 (6 days)	2,000
<i>Denning Spring</i>	Camp Irwin, California	March (7 days)	4,000
<i>Thunder Bolt</i>	Fort Hood, Texas	April (15 days)	8,000
<i>Lava Plains</i>	Yakima, Washington	May (15 days)	17,000
<i>Mohawk Arrow</i>	Camp Drum, New York	Unannounced (15 days)	5,000

'H-37B' Helicopter

A recently negotiated contract calls for the modernization of 30 of the United States Army's *H-37A Mojave* helicopters to an improved *H-37B* configuration. Changes to be accomplished under the terms of the 3.4 million dollar contract include the installation of an automatic stabilization system, crash resistant fuel cells, and standardization of electronic and radio equipment. Landing gear cycling



US Army

H-37 Mojave as an aerial crane

time will be reduced to permit more rapid extension and retraction of the gear. The *H-37* is one of the few helicopters equipped with retractable landing gear. Side cargo door and the front clamshell loading doors will be modified to permit loading and unloading from a hovering position. Other changes will increase operating efficiency and reduce maintenance costs.

In addition to its internal cargo capacity, the twin engine *H-37* has considerable capability as an aerial crane. Sling loading of materiel provides a significant saving in time for loading and unloading when the aircraft is used in air-mobile operations.—News release.

GREECE

Greetings

What may be the world's first draft notice has been discovered near the site of the ancient Greek town of Troezen, about 30 miles north of Athens. The notice is inscribed on a small stone tablet about 15 inches high and two feet wide and apparently was concerned with the mobilization of forces for the Battles of Thermopylae and Salamis during the summer of 480 B. C. The 400-word tablet was a decree of Themistocles, famed Greek general who foresaw the pending invasion of Greece by the Persians.—News item.

GREAT BRITAIN

'Wombat' Troop Trials

British forces are currently conducting field tests of the *Wombat*, a new light-weight recoilless antitank artillery piece of the battalion antitank (*Bat*) family. The *Wombat*, the third in the series, is lighter in weight than its predecessor the *Mobat* (modified *Bat*). It weighs only 650 pounds as compared with *Mobat's* 1,700 pounds.

The *Wombat* is mounted on a two-wheeled carriage. When transported over long distances, the complete assembly is carried on a long wheelbased Land Rover vehicle. It is equipped with a .5-inch spotting rifle which fires tracer ammunition.—News item.

NATO

Naval Exercises

A series of naval tactical exercises have been conducted in the North Atlantic in recent weeks. Part of regular NATO training, the exercises have involved fleet, anti-submarine, and submarine operations with close air coordination. Ships and men from Belgium, Norway, the United States, Portugal, France, Canada, the United Kingdom, and the Netherlands participated.—News item.

JAPAN

Defense Cost Sharing

Japan has contributed nearly one billion dollars to the support of United States forces and military bases in that country since 1953 according to the statement of a representative of the US Department of Defense. The United States plans to continue military aid to Japan on a cost-sharing basis.—News item.

UNITED ARAB REPUBLIC

New Air Academy

Egypt (southern region of the United Arab Republic) is reported to have opened a new military air academy during this past summer. The new school is said to be the largest in the Middle East.—News item.

TURKEY

Retirements Stepped Up

Turkey is involved in a comprehensive reorganization of her armed forces which calls for the retirement of 235 generals and admirals from the three services. The retirements will permit the promotion of qualified younger officers in all ranks. Plans to be carried out over the next three years also call for the retirement of 30 percent of the officers serving in the ranks of colonel, lieutenant colonel, and major or equivalent. Officers will be retired primarily on a voluntary basis. Cash incentives are being offered to encourage early application for retirement. A program of retirement of senior officers at a planned rate will be carried out annually in succeeding years.—News item.

Turkish Brigade Flag

The regimental flag of the famed Turkish Brigade has been returned to its homeland after 10 years' service under United Nations command in Korea. The flag was recently presented to the Military Museum in Istanbul. One company of Turkish soldiers remains with the UN Korean forces.—News item.

SPAIN

New Spanish Automatic Rifle

A new 7.62-millimeter rifle, designated the *CETME*, is now in production in Spain. Capable of automatic or semiautomatic fire, the *CETME* employs the standard NATO round and has been adopted by the West German Army as well as the Spanish Army. It is reported to have a maximum rate of fire of 550 to 650 rounds per minute and a muzzle velocity of 820 meters per second. It can be used as a rifle, submachinegun, or light machinegun, and is simple to manufacture and easy to use and maintain. It employs a 20-round magazine.—News item.

DENMARK

'Nike' Sites Completed

The air defense of Denmark has been strengthened recently by the completion of 36 launching sites for *Nike Ajax* and *Nike Hercules* missiles. The *Nike* units are manned by personnel trained in the United States and are reported to be fully operational. Exercises carried out under

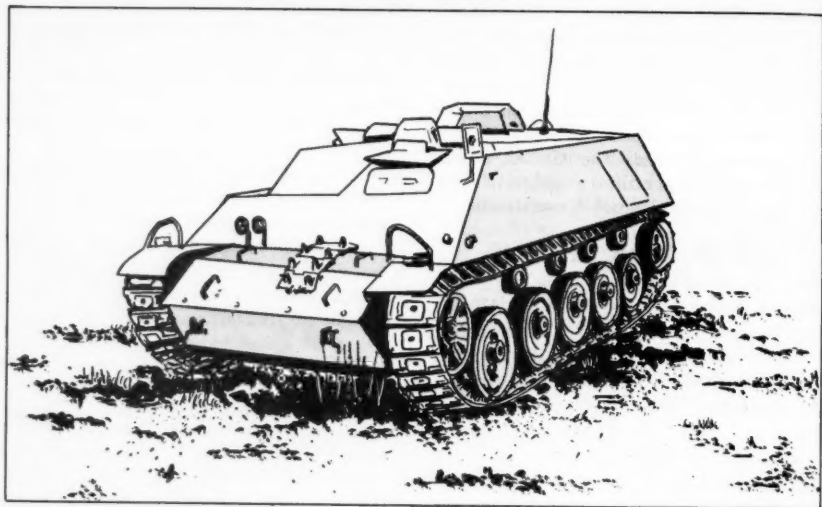


US Army

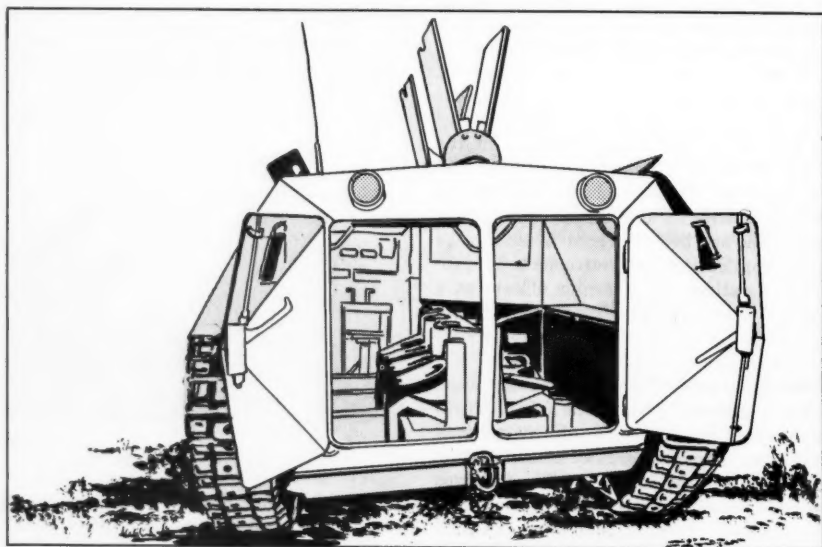
Danish soldiers man Nike Ajax

the supervision of US specialists have proved the competence of the Danish crews to engage and destroy enemy aircraft.—News item.

SWITZERLAND



Swiss armored personnel carrier

Inside view of the *Pirate* armored personnel carrier

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Swiss Armored Personnel Carrier

A 12-ton armored personnel carrier designed in Switzerland is under evaluation by the Swiss, West German, and Italian Armies. Designated the *Pirate*, the new vehicle has been under development since 1954. The first prototype was completed in Switzerland in 1957 and series production began in January 1959. Tests of five prototypes in Germany and Italy are reported to have resulted in a favorable evaluation of the vehicle.

The *Pirate* has a flat floored passenger or cargo compartment divided down the center, in the personnel carrier configuration, by two rows of seats in which the occupants sit back to back. It will accommodate 12 occupants, is powered by a 320-horsepower engine, is simple to operate, and requires little maintenance.

In addition to the personnel carrier configuration, the vehicle can be built as an ambulance or a cargo carrier. With appropriate modification it can be fitted with a 90-mm antitank gun or a 20-mm machinegun.—News item.

'Flex-Trac' Truck

A Swiss firm has designed a rough terrain truck capable of climbing a three-foot-high wall. The six-wheeled vehicle

45-degree side slope, swim across rivers, and drive through mud, snow, sand, or marshland. Designated *Flex-Trac*, the truck has been demonstrated recently to several military groups in the United States.—News item.

USSR

Soviet Missile Cruisers

Seven Soviet missile cruisers are reported by Swedish sources to be operating out of ports on the Baltic Sea. Observers state that these vessels are armed with short-range surface-to-surface missiles. They also appear to be carrying large liquid-propelled missiles.—News item.

Communists Train African Cadets

Between 700 and 900 Africans are believed to be receiving military training in Communist nations. French sources have reported that one group of Africans is being trained as pilots in Romania and the Soviet Union, and that another group is receiving submarine warfare training at a Bulgarian naval base on the Black Sea. Included are personnel from Guinea, Ghana, Kenya, Ethiopia, the Congo, Angola, Nigeria, and Mozambique.—News item.

AUSTRALIA

Weapons Research Agreement

The United States and Australia have signed an agreement under the Mutual Weapons Development Program which provides for cooperation in technical matters to accelerate the development of new nonnuclear military arms and equipment. The United States will contribute money and technical information toward Australia's weapons development program, Australia will make information on any project subject to the agreement available to the US and, upon specific agreement, to her allies. The agreement brings Australia within the scope of US mutual aid for the first time.—News release.



US Army

Rough terrain truck

bends in the middle to provide traction on an irregular surface. It can traverse a

MILITARY DIGESTS



Source
of
Military
Power

Quantum jumps in military technology have tended to obscure the ultimate nature of the human factor in military power. United States military leaders have said much on this theme in recent months, but they are not alone. Here in a series of short articles is evidence that our allies, our potential enemies, and the leading thinkers in uncommitted nations subscribe to the principle that man, above all else, is the primary source of military power.—Editor.

MAN THE PRINCIPAL FORCE IN WAR



A Soviet View

Digested from an article by Colonel I. Grudinin in "Krasnaia Zvezda" (RED STAR)
21 June 1960. Translation by Mr. LaVergne Dale, Leavenworth, Kansas.

This article, written by a senior Soviet officer for publication in the major Soviet Army newspaper, is obviously intended for troop consumption. Replete with Communist dialectics, it must be read subjectively. It is worth studying to note the similarity between United States and Soviet emphasis on the individual in modern war.—Editor.

Nor so long ago we were ordered to listen to an informational lecture by one of our units concerning the development of military equipment and weapons, and

the enormous changes that have taken place in the technical equipment of armies in the postwar period. The lecturer dwelt at length on the growth of the firepower of the armed forces of the USSR and, by means of clear, concrete examples, showed what formidable weapons and military equipment the Soviet Army and Fleet have at their disposal as they guard the constructive labor and the safety of the Soviet nation.

The lecture was well-received by the listeners. However, one of the officers observed to the speaker that nothing was

We must not minimize the decisive role of man in the development and outcome of armed conflict. This idea runs like a red thread through all of Marxist-Leninist doctrine on the role of man and equipment in war

said about those who must skillfully handle this equipment, about what demands it makes of the men who are outfitted with it. This is very important. One may not separate the equipment from the men or the men from the equipment when treating of the military preparedness and combat capability of an army. In this observation was expressed a sound truth. Cases where this truth is lost sight of are not infrequent, however. The growth of the technical equipment of military forces is expounded in a detached manner, without relation to the decisive role of man in the employment and exploitation of the means of armed conflict. This reduces the value of the thought expressed in such lectures, and diminishes their effect on the minds of the military listeners. It is clear that we must never minimize the increasing role of weapons and equipment in the modern situation. Similarly, we must not minimize the decisive and ever-increasing role of man in the development and outcome of armed conflict. This idea runs, like a red thread, through all of Marxist-Leninist doctrine concerning the role of man and equipment in war.

V. I. Lenin said that in war the side that is technically superior, that possesses the best machines, has the advantage, but that the best army will be beaten if it is not sufficiently armed, trained, and fed. He spoke many times of the fact that without soldiers and sailors of initiative and a sense of responsibility, success is not possible in modern war, and that the new weapons and military equipment were useless "in the absence of men capable of intelligently taking advantage of the new improvements in military technology."

Role of Human Intelligence

Considering, in their dialectical unity, the role of man and materiel in armed conflict, Marxism-Leninism assigns decisive importance to the intelligent activity of the man. This agrees entirely with the cardinal proposition of Marxism-Lenin-

ism concerning the decisive role of the national masses in the development of human society. The national masses shape history. With their labor and with their hands are produced the tools of industry. They devise and improve equipment, complicated machines, and instruments including war materiel. At the needed moment men put these combat means into action, avail themselves of them for the achievement of victory in war. On these men depends victory or defeat.

Therefore, from whatever angle we may consider the role of military equipment and weapons—be it from the point of view of increased firepower and effects on the enemy, or influence on the methods and forms of armed conflict—we must always bear in mind the men to whom this materiel is entrusted, the knowledge and purposefulness with which they must act, their potentialities and aptitudes, and their training and natures. It is important to observe this principle in all our writings or dissertations relative to military theory and materiel.

Military equipment and weapons constitute the physical foundation of the combat capability of the army and fleet. Thanks to the outstanding achievements of our country in the development of its economy, its science, and technology, the armed forces of the USSR are equipped with the most modern and perfected means of armed conflict.

Defense Against Imperialism

These powerful, technically equipped armed forces are necessary to the Soviet Government for the sure protection and defense of the conquests of socialism and communism and to free the peoples of the USSR from external threat. The assertions of the ideologists of imperialism that the Soviet Union is strengthening her army and fleet for the accomplishment of her "aggressive plans" are not in common either with the policy or the ideology of the Soviet Government. The Communist

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Party and the Soviet Government wage a constant and untiring war exclusively for the consolidation of peace, for the peaceful coexistence of countries of differing social systems. If, while conducting her fight for the consolidation of peace, the Soviet Union continues to strengthen the combat power of her armed forces, she does this only because the imperialist reaction manifests obdurate resistance to the establishment of peaceful relations,

weapons by new and improved ones is the logic of military development. This does not mean that we should throw away the ordinary or "old" types of weapons. To a certain degree these types of weapons will be improved and employed in conjunction with the newest equipment.

The war of the future, if the imperialistic aggressors succeed in loosing it, will be a nuclear war, a rocket war, a war of radio-electronic technology. There is no



US Army

Useful weapons of the past will be retained

and pursues a policy of preparation of a new aggressive war against the USSR and other countries of the Socialist camp.

As long as an agreement has not been reached on full and universal disarmament, as long as the danger exists of an aggressive war by the imperialistic aggressors against the USSR, the Soviet nation, and the Communist Party, will strengthen their army and fleet, and provide them with new weapons and equipment.

The replacement of obsolete types of

question but that the rocket-nuclear weapon will be the principal means of destruction for dealing massive blows on the enemy. The rocket-nuclear weapon is practically unlimited in respect to range and possesses a high degree of accuracy in striking its target.

The Demands on the Soldier

As Minister of Defense of the USSR, Marshal of the Soviet Union Malinovsky stressed in his report at the all-arms conference of the secretaries of the primary

party organizations: "However powerful and effective military equipment might be, without the man it is nothing. The equipment is actuated by the man." At the present level of military developments, the proposition that the more complicated and powerful the means of armed conflict, the greater the role of man in combat gains still greater significance. Such is the objective dictum substantiated by the history of war. This dictum is not annulled by the extensive motorization and mechanization of armies. In the face of such changes, men must determine the methods of employing this military equipment; men must employ it intelligently.

Let us attempt, briefly, to answer the question of why the role of man has increased immeasurably with the development of modern weapons.

The employment of new equipment and weapons has always had a decisive influence on the character of battle and has always made new demands of the soldier. This applies fully to the employment of rocket-nuclear and other weapons of massive destruction. The exploitation of these weapons will require heretofore unheard of capacity for maneuver on the part of forces. They must be capable of conducting violent action of short duration without a continuous front, and of fulfilling independent combat missions with isolated small units. They must be capable of conducting the attack in multiple directions and at a high tempo. The employment of rocket-nuclear weapons will be accompanied by the formation of a large number of zones of complete destruction. Small units will have to carry out complicated missions aimed at the liquidation of weapons of massive destruction.

All this, taken together, will demand of the human element a control of moral and physical forces unknown in wars of the past. Therefore, it will not be the role of mediocre men that will increase, but that of men who are firm, who possess unshak-

able moral stamina, determination, and the ability to withstand the trials of battle.

Technical Skills

One of the most important conditions for obtaining victory over the enemy has always been the skillful employment of military equipment and weapons. The role of man in modern battle is increased because these means require supreme mastery of combat methods and a high degree of technical preparedness. Without skilled, technically trained men who understand the construction, principles of employment, and combat capabilities of weapons and equipment, success is impossible.

This was true, of course, even in past wars. With the modern, extremely complicated, and powerful means of conflict, however, this circumstance acquires exceptional significance. It is important to note that many new weapons and equipment are served, not by individual soldiers, but by groups of soldiers. Under these conditions, inadequate training, errors, or slow reaction on the part of one man or of a group can endanger the operation of an entire unit. Hence, the need for a high level of technical training and combat proficiency has increased not only for the individual soldier, but for entire units. Cooperation and mutual support are becoming increasingly important.

This was confirmed by our rocketeers who, by their skillful and irreproachably coordinated actions, brought down with their first rocket the American plane which, for the purpose of spying and banditry, was invading the airspace of the USSR.

Responsibilities of Leadership

Speaking of the increased role of man with modern weapons, we must not overlook the increased role of command. The greater the role of the soldier in armed conflict, the greater becomes the role of the commander who directs him. The commander must make use of all the physical and moral forces of his troops to assure

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victory over the enemy. Powerful, complicated, and diversified forms of combat equipment and weapons require greater tactical and technical training of commanders than in the past. They must have a thorough knowledge of the capabilities of weapons and their effective employment in varying situations. Officers must participate actively in devising and perfecting methods of employing these weapons in battle.

"The officer," said comrade Khrushchev in a speech at the reception in the Kremlin of the graduates of the military academies of last year, "is obligated to be well-acquainted with the rapidly developing equipment. He must be a strict specialist in a specific military field, and, at the same time, possess a broad field of vision."

New military equipment and weapons have raised still higher the importance to the commander of the qualities of self-reliance, resoluteness, initiative, firmness of will, and unyielding determination in the execution of decisions. He requires great skill not only in planning a battle, but also in foreseeing its development and outcome, in correctly appraising a rapidly changing situation, and in quickly finding ways of most effectively employing forces and means for the destruction of the enemy.

It is impossible to enumerate all those factors which show that the control of troops with modern weapons has become considerably complicated. It is important only to stress that the increasing role of commanders at the present level of military development demands ceaseless perfecting of their organizational capabilities, profound study of Soviet military art, the mastery of present-day modes and forms of armed conflict, heightening their mastery of military pedagogy, skill in the instruction and training of subordinates, and in uniting and organizing them for the victorious conduct of combat operations.

The increased role of man in war is

directly connected with the increased role of the engineer and technician. As a result of the continuous increase in the technical equipment assigned to troops, the number of these specialists in the armed forces has increased considerably. The success of combat operations will depend largely on the training of technical cadres, and on their political and professional qualities. For this reason, the training of technical cadres is the object of constant care on the part of commanders, political agencies, and party organizations. It is our engineers and technicians who are the fountainhead of Soviet military and technical culture, who improve the combat readiness of the troops.

Moral Stress of Modern War

The increase of the role of man in war makes still greater demands on the moral nature of the soldier. The complex problems of modern battle can be solved only by hardened, physically fit soldiers capable of withstanding the great moral strain; men of strong will, firm and unyielding.

V. I. Lenin taught that, "One must not forget the basic laws of war. The essence of war is danger. In war there is not a single minute when you will not be surrounded by dangers."

He prevails in battle who preserves the will to conquer. Those individuals who have lost their high moral courage either take to panic-stricken flight or become prisoners of war. On the other hand, soldiers who preserve their volitional qualities fight to the last drop of their blood under whatever conditions may exist.

Therefore, neither the weapons, the military equipment, nor the combat skill of the troops and officers can ensure victory if the men do not possess a high degree of moral fortitude.

One of the sources of strength of the armed forces of the USSR lies in the fact that their soldiers are distinguished by unsurpassed moral qualities and, with firm resolve, continue to fight to the vic-

torious end. As in past wars, the men of our army and fleet manifested massive heroism, selflessness, and infinite devotion to their nation. Thanks to this, the Soviet soldiers achieved brilliant victories over the numerically superior enemies of the Socialist homeland. At this moment, the armed forces of the USSR firmly stand guard over the security of our beloved motherland.

The high moral and combat qualities of the Soviet forces are not inborn. They are the result of the constant and intelligent instructional effort of the Communist Party, the commanders, the political workers, and of the party and Young Communist League organizations. The party teaches that for our armed forces to be powerful and invincible in the future, it is necessary in every way to heighten their combat preparedness, to develop and perfect the moral and combat qualities of the individual soldier. The Soviet forces are under strict obligation to carry out these instructions.

In his speech at the all-arms conference of the secretaries of the primary party

organizations, Malinovsky said that one of the main tasks of military construction is the wise union of the political, military, and technical preparedness of personnel. This task must occupy the attention of all our commanders, political agencies, and party organizations. It is necessary that each man and officer has a thorough knowledge of his weapons, equipment, and their masterful employment in battle. This knowledge will enable him to aid in increasing the might of the Soviet armed forces.

The party teaches that the basis of the high moral and combat qualities of the Soviet soldiers is their political consciousness. The more deeply the great ideas of Marxism-Leninism penetrate into the consciousness of the soldiers, the better they understand their missions, the more wholeheartedly will they fulfill their sacred obligation to the motherland. For this reason, the commanders, political workers, and the party and Young Communist League organizations must increase their educational work with the masses of the soldiery.

The paramount concern of the Army is the ground combat soldier. He is the focal point of all our efforts. Organizing, equipping, training, sustaining, and supporting him so that he can perform his indispensable role in combat is the Army role.

This role is equally significant in any kind of war—hot or cold. It is just as important in general war as it is in limited war. For our Nation to entertain any notion to the contrary would be dangerous.

The danger could be social as well as military.

More than any other category of personnel in the Armed Forces, the ground combat soldier comes from the general populace. He is the private citizen under arms—the clenched fist of his people.

General Bruce C. Clarke

The Morale of the Soldier in War

Digested from a copyrighted article by Brigadier Sir John Smyth in THE ARMY QUARTERLY AND DEFENCE JOURNAL (Great Britain) April 1960.

WHAT makes one man, to quote Kipling, "hold on when there is nothing in him," and another man, in the same circumstances, decide to quit?

What makes one unit in a brigade attack go steadily forward in face of heavy fire, and another unit next to it come to a standstill or go the other way?

What makes some men, who have previously been courageous soldiers, suddenly show cowardice?

Why do men, who have shown themselves steadfast under shellfire, lie at the bottom of the trench when the unit is ordered to advance?

Why does a parachutist, who has been trained to jump, suddenly refuse to do so?

Why does a very fit man break down under certain physical ordeals and a man of far inferior physique overcome them?

And finally, does modern war—and possibly future war with nuclear weapons—demand a different kind of morale just as it must demand a different kind of training and conduct? Perhaps I might pose an answer to this question right away. I think that the old lessons we have learned with regard to morale in war over the ages still hold good—if only we will understand them and apply them correctly.

The unknown and unexperienced are always frightening to human beings whether they are in civvy suits or in uniform and whether the new weapons are bows and arrows, knights in armor, tanks, gas, or high explosive or nuclear shells. New weapons, of course, demand new tactics which, in themselves, may put a greater strain on morale. But, by and large, all the old factors remain. For instance, the morale of a company probably would be more shaken if, in an operation on the

Northwest Frontier of India, they had left behind them a wounded officer and half a dozen wounded men—and then come along next morning and seen the horrible results—than if those same men had been blown to bits by some new form of nuclear shell.

Expendable Courage

So, first, I would like to propound some of what I believe to be fundamental truths which lie at the bottom of this problem. I believe courage to be expendable. Nearly all of us have courage to a greater or lesser degree, just as we all possess certain natural powers of physical, mental, and nervous stamina. And all these qualities vary greatly between one man and another. Such qualities can be built up by training, discipline, and other means, but they can also be weakened, and eventually drained completely, under certain conditions. When that happens, either opportunity must be given for the empty vessel to be refilled or that particular man becomes a liability to his comrades.

I have never been able to understand how, for instance, the Right Reverend J. L. Wilson, Bishop of Singapore, captured by the Japanese in 1942, withstood the appalling tortures inflicted upon him by the brutal Japanese Kempei Tai. Every man has his breaking point, but they never reached the bishop's.

Some men have a horror of heights but are otherwise brave soldiers. Some are brave in company but become nervous and vacillating when left on their own. Almost everyone has his own particular weakness. I have known men who were immensely brave under shellfire, but who shuddered at the thought of a bayonet

assault. Others were just the reverse: the very thought that they had to hold a position under heavy shellfire almost sent them around the bend, but they would advance bravely to close with the enemy.

Common Fears

The raw material, therefore, which has to be made into fighting soldiers is a collection of individuals with varying hopes and fears and idiosyncrasies; and the natural inclination of them all, when under fire, is probably to get into some hole and stay there until it is all over.

Although, as I have said, all men have natural military assets in varying degrees, they also have certain common fears. And the greatest of these are death and mutilation. Perhaps the second is a more universal fear than the first—certainly among young men. Although most soldiers naturally fear death—and they may see it all around them—it is curious how they nearly all think that it will not happen to them. I was very struck by this on one occasion when, as a young officer, I found myself pinned down on a hillside in France where a British platoon had been caught by a machinegun in enfilade and wiped out to a man. I thought perhaps I might give comfort to some of the relatives if I wrote to tell them that their boy had died bravely and quickly. While searching among their effects for addresses, I found several unfinished letters to the folks at home. And they all expressed a firm belief that, whatever happened to anyone else, they would come through all right.

Most people—even highly trained soldiers—fear the unknown although sometimes the fear of the devil you know is greater than that of the devil you do not. The divisions that were subjected to the first German gas attack in France in 1915 threw down their arms and fled in panic. That must have been a truly terrifying ordeal for troops who were quite unsuspecting and completely unprotected

against such a weapon. But the ordeal of the troops who had to counterattack a few days later, knowing they would be gassed—and what the gas casualties looked like—was every bit as bad. Our first tanks were terrifying to the Germans, and what a pity it was that we used them in such a piecemeal way. The jungle is particularly frightening to the untrained man as, indeed, is the craggy mountainside—particularly when peopled by the hardy, and generally invisible, frontier tribesmen.

Victory, of course, is a great morale raiser and troops can stand far greater ordeals in victory and pursuit than they will in defeat and withdrawal. That was why Lord Montgomery was so wise never to launch a major attack until the odds were in his favor. He managed to give the 8th Army a diet of unbroken victory and on such fare their achievements became progressively greater. And talking of diet, the British soldier, unlike the Japanese, does not fight well on short rations.

Static conditions, such as the trench warfare of World War I, are apt to be very trying indeed to morale—especially if the enemy has artillery superiority. The British soldier, in particular, likes movement and, of course, air superiority!

Factors Affecting Morale

Would a nuclear war demand higher morale than, for instance, facing a gas attack, a tank attack, the deadly machinegun, a bayonet charge, or the flamethrower? I don't think so. These are all extremely unpleasant things—and much more trying to some men than they are to others. Modern war does, of course, demand greater dispersion which, in turn, demands a high standard of junior leadership. And, of course, good leadership in any type of warfare is one of the greatest morale raisers of all.

These are some of the factors which must influence us in selecting and training our modern fighting man. We need

good leaders and brave, fit, and well-trained men. We should try to nurse the young soldier into action under the most favorable conditions as did that wise commander, Bill Slim [Field Marshal Sir William Slim] when he was preparing to lead his 14th Army back into Burma in 1943. Our troops should be well-weaponed, well-equipped, and well-fed. And when it comes to battle we must not take the pitcher too often to the well—remembering always that courage is expendable.

However, although we may know the ideals at which we want to aim, people's opinions differ as to how we should attain them. We do not know how different men will react to certain stresses and ordeals until they actually have to endure them. And even if we know our men well and have trained them to the best of our ability, they are still only human beings in uniform with the usual human unpredictability.

And always we come back to the underlying truth that "the law is in the circumstances." For example, a week's tour of duty in the frontline trenches in World War I could be either a very great ordeal or merely a somewhat anxious and uncomfortable experience, dependent upon where on the front you were. But in the bad parts, a unit's tour of duty should have been about three days and nights at most. Sometimes that could be arranged; but often, and this was particularly true in the early days, the circumstances simply did not permit, and then good men became so drained of their courage and their mental and physical stamina that they took a long time to recover. The same thing happened, of course, in the Royal Air Force; pilots who were allowed to take part in too many dangerous missions without a break reached a condition when they became a danger to themselves and to their associates.

Many books have been written about the ordeals of British prisoners of war in

Japanese hands. They were always in a state of semistarvation and most of them were also suffering from some kind of tropical disease. They were brutally ill-treated and grossly overworked, and the percentage of deaths among them was dreadfully high. They had practically no news from home and little from the outside world. The marvel is that so many survived. Another example of the unpredictability of human beings was in the type of men who survived these conditions and those who gave up and died. In many cases, the fine athlete of excellent physique went down and the most unexpected types came through. But by the end of their years of captivity, the survivors had been drained of almost everything save courage. And that is why their rehabilitation has in so many cases been a long business.

I have tried to pose some of the problems which have to be overcome in order to produce highly trained soldiers of good morale and to keep their morale high in conditions of continuous strain and danger. What are the acknowledged "aids," so to speak, in the attainment of these ideals? Love of country, love of family, religion, tradition, pride of regiment, and pride in oneself have all been great factors in morale. Belief in victory is another one—and this feeling of complete confidence in success has never been engendered more strongly than by two of Britain's greatest battle commanders, Lord Nelson and Lord Montgomery. A high standard of individual training is also a very great morale-raiser. There was, for instance, very little basic difference between the British and Indian troops who resisted the Japanese invasion of Burma in 1942 and those who finally retook Burma two and a half years later. Had our Burma troops in 1942 been employed in the desert—as had been intended—they would have done very well. But plunged into the entirely unfamiliar environment of jungle warfare, for which they had

neither training, equipment, nor transport, and opposed as they were by highly trained Japanese divisions, their own inferiority soon became apparent to themselves just as it did to the Japanese. And when, in addition, they were faced with a superior air force, then you had a set of circumstances which would have rapidly reduced the confidence and morale of any troops in the world. But again—the law was in the circumstances, not in the

place was Givenchy in Northern France, which, in the previous 10 days, had been captured and recaptured several times. At that moment the Germans were firmly in possession of Givenchy and the high ground, and we had been bundled down into the valley where we were preparing to spend a miserable Christmas in wet and muddy trenches.

I had been detailed to guide a French battalion in a night assault on the posi-



US Army

Religion—a sustainer of morale in times of trial

men. At that particular stage of the war there were no other troops to send.

Discipline

One of the great aids to morale is, of course, a high standard of discipline—both individual and unit discipline. And in the past, one of the chief methods of its attainment was barrack-square drill. The chief protagonists of this have been the Guards. I remember very well the first occasion on which I saw the Guards in action. It was Christmas, 1914, and the

tion but, finding uncut wire and the hill feature very strongly held, the battalion commander had wisely decided the task was impossible. But at that period of this extraordinary war all ground lost had to be recaptured, regardless of its value and regardless of losses. We then heard that a Guards brigade was going to counter-attack—their starting point being our own frontline trenches. The conditions were cheerless. It was a bitterly cold day and snow was threatening. Givenchy was an exceedingly strong and commanding

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position and there was not nearly enough artillery support available to give the attack more than an outside chance of success. I wondered what the Guards would make of such a situation and I watched their calm, precise, and thorough preparations with interest.

When zero hour struck and the attack

Brigade. "*C'est magnifique, mais ce n'est pas la guerre.*" (It is wonderful, but it is not war.) But it *was* war; they were getting there, and their great traditions, discipline, and barrack-square drill were paying off. The attack was not a complete success, but I felt that no other troops in the world could have done what the Guards



US Army

Love of country, tradition, and pride of regiment provide ennobling objectivity

started all hell was let loose. The hefty sergeant to whom I had given a leg-up over the parapet was back in the trench, before he had gone a yard, with a bullet through the leg. But the leading companies shook out at the double and then moved forward at a steady walk as though they had been on the parade ground. The only men who stumbled or fell were the casualties. I thought of Maréchal Bosquet's remark on the charge of the Light

did that day. This episode made a lasting impression on me.

Twenty years later, shortly after my autobiography, *The Only Enemy*, was published, I had a letter from a retired British officer who wrote: "The most inspiring thing in the whole of my military service happened to me on 13 September 1935 when, at the top of a high pass, I watched the arrival of the 45th Rattray's Sikhs into the Mohmand Country." This was

certainly a day I shall always remember with pride, although I can take none of the credit for I had only just been transferred to command the 45th because of the illness of their commanding officer. The Rawalpindi Brigade, under command of Brigadier (later General) Cyril Noyes, was moving up to join the force under General Auchinleck, which was about to take part in the Mohmand campaign. It was a sizzling day in September and the heat in the narrow valley was absolutely stifling. As the final stage of the long day's march was reached and the road wound up to the top of the pass, the battalion in front of us started literally to disintegrate. First men began to straggle, then some fainted or went down with heat-stroke (always a very catching complaint), and, finally, the battalion became completely unstuck.

The 45th had, a reputation, like the Guards, for iron discipline and tremendous precision in barrack-square drill. I had had no reports of men falling out and the steady tramp of feet behind me sounded reassuring. As we reached the top of the pass, I looked back at the battalion. Not only had no man fallen out—there was not a man out of step! Black with sweat and their beards gray with dust, they gave a proud "eyes right" to the force commander.

There has been a tendency in some quarters to consider discipline blimpish and barrack-square drill out-of-date, and there is no doubt that the latter does not now conform to any of the movements required of modern forces in the field. Nevertheless, the more unpleasant and frightening war becomes, the more important it is for the will to be stiffened

by individual discipline and by the discipline and high morale of the unit. The question is—how can this best be done? I do not pretend to know all the answers: I have just tried to present the problem and make some suggestions. But of one thing I am quite sure. You cannot expect men, however well-trained and equipped they may be, to produce their highest endeavors in conditions of difficulty and danger without some ennobling thought to inspire them. Looking back at some of the "aids" I quoted earlier, they are all ideas in the mind of the soldier: love of country, religion, tradition, and pride of regiment.

The main task of the British Army of today is, in conjunction with our allies, *to prevent the war of the future from ever taking place*. We help to achieve this end by our contribution to the North Atlantic Treaty Organization and by the provision of small mobile forces to move to any part of the world to put out the "brush fire" which, if allowed to spread, might become a world conflagration. We shall shortly have a completely voluntary Regular Army which, although limited in numbers, must be of superexcellence in mobility, morale, and efficiency. To carry out its tasks it will need standards of discipline exceeding those of any defense force this country has ever had. And just as its responsibilities will be great, so also must be its status in the nation. What finer inspiration can there be for the men of this force than the keeping of the peace of the world—in the full knowledge that if they fail it may mean the end of civilization. And we, in our turn, must be proud of them and remember always that the job they are doing is the most worthwhile of all.

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Human Relations in Military Societies

Digested from an article by Dr. W. T. V. Adisesiah in the JOURNAL OF THE UNITED SERVICE INSTITUTION OF INDIA October-December 1959.

THE practical aim of psychology lies in discovering how a person may be helped over his difficulties. It follows that the first concern of the practical psychologist is to analyze and classify the difficulties commonly experienced by people before he offers any advice on how to resolve them. Broadly speaking, difficulties emerge from two worlds—the world of material things and the world of people. The psychological approach is nothing more than a systematic effort to meet situations effectively and to forestall developments which arouse unhappy conditions in the minds of people. In a broad sense, therefore, every one of us has to be something of a psychologist.

The Material Environment

We have all lived long enough in this world to realize how profoundly the climate, the atmosphere, the changes which take place in the world around us, and even "acts of God" affect our moods and tempers and occasionally make us feel that life is hardly worth living. At the same time, there are days of sunshine, freshness, and glowing warmth regaled by "the cup that cheers" which put heart into us on our journey through life.

The common man may well afford to close in on his troubles either by withdrawing from his environment or by abandoning his effort when he finds the strain too hard to bear. The soldier can ill-afford to do this. He has to press on, braving the inclemencies of the weather, advancing against showers of bullets, making the best of a bad bargain because he

would rather win than lose the battle. The will to fight merges with the will to survive, for survival in a perilous environment is the key to victory over the enemy.

The Social Environment

More intricate than the world of matter, against which each one of us has to contend, is the world of human beings whose ambitions and aspirations, domineering tendencies, and divergent interests cut against those of the individual. Resentments and rivalries, grudges and grouses, kindle aversions and anxieties, fantasies and fears in many an otherwise calm and contented mind.

When confronted with formidable social problems in the common run of life, people who cannot see a practicable way out of their difficulties tend to detach themselves from others or to consult specialists to find the cures for their troubles. The soldier cannot, however, afford to be an isolationist. He has to live with other people, eat with them, think with them, sleep with them, and even dream with them. That intimate personal interrelationship, which the very structure of a military unit entails, makes it necessary that there should prevail within the unit a "social climate" marked by unity of purpose, friendly understanding, healthy rivalry, and mutual regard. The problem of human relations in military societies is, thus, a problem of capital importance.

During recent years, many psychological questions relating to human relations in the fields of education, industry, and

The pattern of human relationships within a military unit is unquestionably the most important single factor which contributes to its efficacy. Without esprit no military group can achieve its purpose

public administration have been widely discussed in literature. Certain notions regarding what is neatly described as "the gentle art of managing people" have a useful application to military societies. It is, however, necessary to restrict this discussion to three problems. These are the psychology of interpersonal relations, the problem of military leadership, and the question of group morale.

No one will deny that these are matters of far-reaching significance for military commanders at all levels and, as such, they merit our serious consideration.

Psychology of Interpersonal Relations

It is common knowledge that objects of the material world become meaningful to the perceiver by virtue of their functional characteristics. Thus, a red light on the highway serves as a warning to the motorist of a danger spot. The national flag, fluttering on top of a building, brings home to the mind of the Indian citizen the sovereignty of his country. Possibilities of utilization unfold themselves to the observer as he views an object. Thus, a piece of paper might appear useful for wrapping, for writing a note, or for cutting out a figure depending on its relation to the viewer's needs and purposes. In other words, material objects also acquire a meaning by virtue of their manipulatory characteristics.

Between human beings, on the other hand, the relation of the perceiver to the person perceived is altogether different. Persons have abilities, wishes, and sentiments. They can act purposefully, watch us, or benefit or harm us intentionally because they are aware of their surroundings in much the same way as we are aware of ours. Just as the material environment bears a determinate relationship to the perceiver, there are connections between the constituents of the social environment which partake of the principle of cause and effect. These need to be discussed in some detail.

Social Perception

It is seldom realized, even by those who have proved remarkably successful in business administration or personnel management, that the pattern of interpersonal relationship depends to no small extent on what one sees in others and what others see in oneself. Healthy interpersonal relationships depend almost entirely on the extent to which social perception is comprehensive and realistic.

Two points have to be emphasized in this connection. What psychologists technically call "constancy phenomena" occur not only in the perception of material things but also of people. For example, an aircraft may appear as a tiny silhouette when it is far off, but as a huge object when seen at close quarters. Yet the apparent difference in size would make no difference to the realization that it is an aircraft. This is so because, notwithstanding the difference in size, there is a general form quality—a pattern, a body outline—which remains constant in the two conditions. In much the same way, there is, underlying the apparent differences resulting from situational influences over the same person, a constancy which is capable of becoming unmistakably evident to the perceiver. Between radically different pictures of "Philip drunk" and "Philip sober," there is inevitably a common denominator which issues from Philip himself. This is what should be identified in social perception.

Distortions in Social Perception

When something is seen from an awkward angle, it appears quite different from what it is ordinarily. Look at yourself in a mirror with a convex surface, and you will wonder what you are seeing. Much the same holds true about the way some people see others.

A common distorting factor in social perception is the "ego complex." Underlying this perverse mental disposition is an organization of false notions regard-

ing oneself, bound together by overpowering sentiments of self-regard. A person with an ego complex will tend to see others in small proportions. The prevailing sentiments will impel him to gain control over others, which will result in anything but peaceful relations with other people.

Another frequent cause of distorted social perception is imperfect isolation of what is being seen. This is a kind of illusion, rather like what is experienced when you see a moving train while in one which is standing at the platform. You might get the impression that the other train is standing and your own train is moving. Sometimes, quite unwittingly, you might allow yourself to believe that the other person is elusive or dilatory, while all the time you have been deceiving yourself. Such distortions in social perception may, as they often do, lead to feelings of disapproval, disgust, and even aversion toward others, which would be neither just nor fair.

Distortions in social perception may occur when the person seen bears close resemblance to someone else more intimately known. The resemblance may be in facial or in behavioral characteristics, or both. A strained personal relationship is capable of arising, quite without reason, when feelings of dislike or hatred are transferred from A to B. It is, indeed, curious how some trivial detail such as a hair style or, for that matter, even the color of a necktie could set up strong feelings in the mind of the beholder.

In the case of persons who readily believe what others say, distortions in social perception may be the result of an accumulated stock of adverse stories, which by constant and varied repetition could produce a bias, vitiating the impartiality of one's social perception. It is inevitable that a soft ear should, in due course, produce a soft brain.

A person would be seen in quite the wrong perspective if he is looked upon

merely as a means to gain some end. There is the old fable of the monkey who once saw chestnuts roasting on a fire and prevailed on a believing cat to get hold of the chestnuts. The cat burned his paw, but the monkey ate the chestnuts. There are many people who, like the monkey, will try to see how they can make a cat's paw of others; their social perceptions bear ample fruit where there are people who, like the cat, will pull the chestnuts out of the fire. All in all, it is psychologically desirable to realize that however well one may know another person, there is always some little thing which one may not know and which might be a matter of the greatest importance.

Practical Implications

What has been said regarding social perception carries several grave implications regarding the administrative responsibility of a military commander. Let us consider one important area, namely the Annual Confidential Report (Efficiency Report). This is highly important because of its far-reaching effects on the career prospects of the young officer.

The problem of the commander who initiates the Annual Confidential Report is, without doubt, a difficult problem indeed. On the one hand, he has to feel satisfied that due regard has been given to the interests of the service in making his assessments. At the same time, he is obliged to assess the officer or the subordinate under his command in such a way that no injustice is done as a result of false impressions, which would naturally arise if the person has not been seen in the correct perspective.

In sizing up the capabilities and limitations of the person assessed, many subjective influences will, without doubt, play a large part. To guard against these influences, especially influences which might lead to wrong conclusions, and to maintain a strictly objective standard of assessment would be a sheer impossibility in

the case of a commander who has not trained his social perception aright. The longer the association, the closer the emotional bond; or if it be the other way, the wider the cleavage. Individual differences in the capacity to neutralize distorting factors in social perception are considerable.

Military Leadership

It is now a widely accepted psychological notion that whatever one may mean by the term "leadership" the pattern of personal qualities which goes to make up a leader emerges from a social situation. One of the pioneer studies on leadership was undertaken in 1934 by the American psychologist, Professor J. L. Morneo, who observed groups of babies of various ages from birth to three years, placed close to each other in a nursery. He found that some babies were *isolationists*. They had little interaction with others. Some revealed *horizontal differentiation*. They interacted with their neighbors, but not in a dominant manner. A few revealed *vertical differentiation*, that is they soon began to command disproportionate attention from the group. Morneo came to the conclusion that leadership emerges in a group when vertical structuration develops.

Among grownups, also, one may find the emergence of leadership when a group is confronted with a problem situation. When something which the group has to achieve or attain is blocked by an obstacle, the individual who readily sees a practicable way out of the difficulty or formulates a workable solution to a problem emerges as a leader of the group. He gains his position, in other words, through a process of reorganization in which he is perceived and reacted to by other members of the group as the means to the group goal.

Functions of a Military Leader

A large variety of functions falls to the lot of a military leader whatever the size and composition of the formation may be. The leader has to coordinate the activities

of the group. He has to ensure that the policies laid down for the group are being implemented. For example, a company commander is responsible for having the orders of the day carried out.

The leader functions as a planner. When some action has to be taken, it is his responsibility to think out what has to be done, how it is to be done, and assign to members of the group various specific things which they are supposed to do.

The leader has to function as the source of readily available information regarding the technical requirements and the skills demanded of the group in the activities which it undertakes. A gunnery officer must, for instance, have at his fingertips all details pertaining to the guns under his control, so that, under his guidance, the men would fire the guns as and when they are called upon to do so.

The leader has to function as the official spokesman of the group. He represents the point of view of the group to the higher authorities. Weakness in leadership occurs when members of the group gain independent access to higher levels, bypassing the leader.

The leader has to maintain control over the internal affairs and activities of the group. He is in the strategic position where he functions as "censor" of in-group activities.

The leader's powers of reward and punishment enable him to exercise strong disciplinary and motivational control over every group member. The strength of leadership would lie in being firm but gentle, taciturn but sympathetic.

The leader plays an extremely important psychological role for the individual by relieving him of responsibilities for personal action which he would rather avoid. In return for allegiance, the leader frees the individual from making decisions. It is, however, a desirable practice in military societies that decisions affecting any vital matter concerning an individual should not be made by the leader

without giving due consideration to the viewpoint of that individual.

When things go well and the group earns praise because of its meritorious achievement, the leader shares the credit with members of the group. There is, in fact, the instance of an officer who declined to accept an honor conferred on him because he felt that his comrades in arms also had a share in his act of gallantry. On the other hand, when blame falls on the group for something which has gone wrong the leader must, of necessity, accept the lion's share of the blame. Often, indeed, he may have to function as a perfect target for the aggressive, frustrated, disappointed, and disillusioned group. Thus, it will be seen that the military leadership role is a very complex one, calling for breadth of vision and insight into the intricacies of human nature.

Group Morale

Field Marshal Montgomery regarded morale as the steadfast determination of a group to achieve a preconceived aim. It is necessary, however, to define morale in terms of certain positive criteria. Since the conditions in which military groups function may vary from the settled, secure, and well-established life in a cantonment to the inhospitable, hazardous, and unpredictable environments of forward areas, the application of these criteria has necessarily to be made with due regard to the circumstances in which military groups operate.

Morale may be regarded as high when a group of individuals is held together by internal cohesiveness rather than by external pressure. The reason is obvious. The moment external pressure is relaxed, morale would crack up. This is exactly what happened in Germany toward the end of World War II when the German war machine collapsed as the severity of Allied strategic bombing was stepped up.

In a group where morale is high, internal frictions are at a minimal level. There

may, of course, be honest differences of opinion between individuals, but these differences would not lead to frictions which would cause coworkers to work at cross purposes. All members in a group with high morale will accept a common aim, sink their personal differences, and work toward their common aim.

Within the group, different members exhibit friendly understanding of each other, which is not merely expressed in words or mutual praise but in a harmonious blending of their respective functions. A military group is not a mutual admiration society, but an organization of individuals having specific tasks to perform. They cannot possibly achieve any degree of success unless different members see how the effort of each fits in with the action pattern of the whole group.

The ability of the group to adapt itself to changing conditions is a sign of high morale. It may happen, for instance, that a unit stationed in a cantonment where life is quiet and settled is suddenly ordered off to a forward area. It is to be expected that such a change would have a disquieting effect on some members of the unit; but, in a unit where morale is high, everyone will soon get down to his job, and no one would waste his time trying to produce reasons why the move should be canceled.

Where morale is high, there is a keen desire in members of the group to stay in the group and to make their best contributions to the group. There is a saying in Hindustani that when a ship begins to sink, the rats on the ship are the first to escape. Much the same holds true of military groups. A unit in which desertions are numerous, or cases of sickness plentiful, is showing signs of low morale.

It is generally true that the morale of a unit is a reflection of the personality of its commander. Under the command of an officer whose leadership qualities are of a high order, members of the unit will not fail to develop positive attitudes concern-

ing the objectives of the group. It is, indeed, striking that under difficult conditions men will make the most unexpected personal sacrifices in the interest of the group.

Misleading Indicators of Morale

Sometimes, orderliness has been mistakenly regarded as the indicator of a healthy morale state. One might walk around the company lines in a regimental center and find everything neatly and tidily laid out, but it should not be forgotten that, in a military unit, a certain standard of orderliness is insisted upon as a matter of discipline. Orderliness and efficiency are symptomatic of high morale when they are not the result of external pressures, nor the effort to impress some distinguished visitor, but are produced by a spontaneous desire in personnel to be orderly and efficient.

High productivity is not necessarily an indicator of high morale. In fact, it may indicate a state of positive despair when it is achieved by stringent measures of regimentation. The reports of the United States Strategic Bombing Survey (1946) revealed a remarkable ability of German workers to produce at a high level even under the desperate hardships of Allied bombing. Yet, it cannot be claimed that the morale of the German industrial worker was as strong as that which prevailed among Allied forces when they were subjected to German bombing on the shores of Dunkerque in 1940, or even the civilian population of London during the Battle of Britain. There seems little doubt from the data collected by the United States Strategic Bombing Survey that great numbers of the German people were ready to quit long before their leaders permitted them to do so. This, then, was low morale.

It is commonly thought that a high level of interpersonal tension within a group is a sign of bad morale. This would be misleading because tension, as such,

cannot differentiate between good and bad morale. Tension between the leader and others and, for that matter, tension arising out of conflicting self-interests within the group are dangerous symptoms. But conflicts arising from a concern regarding the achievement of the aim, or tension caused by criticism of the performance of other members may be, as it often is, an indication of high *esprit de corps*.

Negative Determinants of Morale

There are situations in which negative factors contribute to a state of high morale. It is well-known, for instance, that in the face of a common danger, people who are otherwise at loggerheads will unite. Nevertheless, as has been pointed out, "fear and rational expediency are not adequate motives to weld together a people in cooperative effort even in the face of a common danger. If a people has not already some sense of solidarity, then fear is apt to result in panic rather than in common action."

This is just what happened in 1940 to France, where the internal forces of disruption were too great. The unifying forces stirred up by hostile external pressure were insufficient to outweigh the internal disruptive forces. It is, therefore, a matter of prime importance for military commanders to watch the internal disruptive forces which are at work in their units and keep them under restraint, so that in a crisis these forces would not upset the unity which it is desirable to achieve in the group.

Conclusion

To summarize, the pattern of human relationships within a military unit is unquestionably the most important single factor which contributes to the efficacy of the unit. Three factors which bear on human relations tie up closely with the military strength of any unit.

The interpersonal relations prevalent between officers and officers, officers and

men, and between men and men has much to do with the problems arising out of one individual's dealings with another. It cannot be too strongly emphasized that how one person deals with another will depend largely on how he sees the other man. Problems of interpersonal relations arise because others are viewed in the wrong perspective.

The military leader needs to possess certain essential qualities which enable him to exercise his functions truly and well. The qualities of leadership emerge as the group sets itself to solve some

problem, and leadership is indicated in the individual who provides a workable solution to problems as they arise.

A healthy morale state is, without doubt, the essential requirement for the efficacy of any military group. The outstanding fact here is that a high level of internal cohesiveness, the absence of divisive frictions, adaptability to change, and steadfastness of purpose are essentials for the spirit of fellowship and mutual cooperation, without which no military group can ever hope to achieve its common purposes.

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Details may be obtained from local personnel offices or directly from the Commandant, Industrial College of the Armed Forces, Washington 25, D. C.

Occupation Can Be an Advantage!

Translated and digested from an article by Von Ursus in *WEHRKUNDE*
(Federal Republic of Germany) May 1960.

MILITARY plans and actions significantly affect the political realm. The action of the Bundeswehr (Federal Army of West Germany) in seeking supply installations in Spain and the North Atlantic Treaty Organization (NATO) announcement of the formation of a striking force equipped with nuclear weapons are obvious examples. The political reactions caused by these incidents are well-known.

Whether or not statesmen and politicians want to admit it, a large part of their considerations and decisions are based on military-political factors. The "policy of strength" is the current expression for this. Strength, when thought of in this sense, is still to a considerable degree military in nature. Conversely, decisions in the political sphere often have consequences in the military field.

There has always been a relationship between politics and military strength, but in former days it was customary to refrain from setting political goals by unveiled references to military factors, as is frequently done today. The dictatorships in our century have done this and thereby developed a veritable system for the seizure, maintenance, and expansion of power both at home and abroad. In self-defense, the governments of other political systems have had to resort to similar practices. (An example is the repeated public discussions on the political level as to which power has better and more rockets or nuclear weapons.)

In many of its phases, the Soviet offensive against Berlin since November 1958 has been influenced by this form of modern statecraft. One of the arguments used in the offensive consists of the seemingly harmless suggestion that now—14 or 15 years after the end of the war—the

time has come to liquidate what is left of postwar symptoms, including the occupation of West Berlin. This argument sounds good and has had some persuasive impact on persons not directly involved. Even people who are close to the Berlin situation may feel that the legal title under which the Western troops are in Berlin is of secondary significance. The only important point is that they stay in the city. Why should that not be possible under a changed legal status?

Added to this is the fact that the word "occupation" has a disagreeable connotation: it suggests forced billeting, imposts, and restrictions of the individual—to say nothing of the infringement of the sovereignty of the occupied area. Occupation is something one wishes to be rid of as soon as possible. Obviously, Soviet propaganda has counted on these effects to support the arguments on West Berlin. These Soviet arguments have failed, however, to meet with success among the population of the Western sectors.

It appears, therefore, that the termination of the occupation status of West Berlin is a purely political question.

Basis of Occupation

Without dwelling on questions of international law, which do not concern us here, it must be stated that the Western Powers are, in fact, in Berlin as occupying powers. And here a widespread misconception must again be corrected: this status is not based on the Potsdam agreement of 2 August 1945. This agreement contains merely the principles and objectives of the occupation. The sectors as well as the limits of the occupation zones had been settled earlier in the London protocol of 12 September 1944 and in the "London

accord on the control organs in Germany" of 14 November 1944. These documents provided that Germany "within her borders of 31 December 1937, will be partitioned into three zones for the purpose of occupation. Each of the three occupying powers will be assigned one of these zones, and one sector in Berlin will be

occupation purposes was, therefore, settled before the war had come to an end. This is the reason why the victorious powers did not to any degree push beyond the planned demarcation lines when they advanced in Germany in 1945. This occurred only when military necessity warranted it.

The London agreement of 1944 was im-



The Potsdam Conference of 1945

US Army

During this conference an agreement was reached on the principles and objectives of the occupation of Berlin. Among those seated around the table are Harry S. Truman, President of the US (on the far side of table facing cameras), Winston Churchill, Prime Minister of Great Britain (right foreground), and Joseph Stalin, representing the USSR (left foreground).

under the joint occupation of the three powers."¹

The partition of Greater Berlin was also included in the London protocol and the city's 20 administrative districts—of which 12 went to the Western Powers—became the basis for this partition.

The territorial division of Germany for

plemented by an exchange of letters between Truman and Stalin in June 1945, which fixed the date on which the occupation plan was to be put into effect. This involved the evacuation of central Germany by the United States forces, the withdrawal of British troops from parts of Saxony-Anhalt and Mecklenburg, and the departure of the Soviets from West Berlin and the simultaneous entry of the

¹ Only in accordance with a subsequent agreement did France later become the fourth occupation power.

Western Powers into the western part of the city.

Reaffirmation of Status

After Stalin's plan to turn the Western Powers out of the city by blockading it had failed, the New York agreement of 4 May 1949 reaffirmed in writing the continuation of the former situation between the Big Powers. This agreement in effect reiterated the functions of the occupation with respect to Berlin.

It is not possible in this article to enter into the latest Soviet assertions that the Western Powers have forfeited their occupation rights in West Berlin. Disillusions on that subject belong exclusively in the sphere of international law. We will confine ourselves to the three main Soviet arguments:

1. Violation of the Potsdam agreement.
2. Expiration of the London agreements of 1944, which were limited to the first years following capitulation.
3. Violation of the occupational duties on the part of the Western Powers in West Berlin.

Suffice it to say that the Western Powers have rejected and disproved these assertions and that the legal position they took was expressed in the answer of the United States in December 1958:

The Western Powers are there as occupying powers and they are not prepared to relinquish the rights which they have acquired through victory. . . .

It is certain that the USSR and particularly those in power in the Soviet Zone of Germany have many political reasons to want a change in the Berlin situation. A change in the legal status of the Western Powers in the city would constitute a partial success. It is not the purpose of this article to examine the eventual political effects of such a change but the military-political consequences are significant.

Even if the strength of the Western garrisons were increased, and the ques-

tion of communication routes were alleviated, the annulment of the occupation status would mean a deterioration of the military-political situation, for West Berlin could thereby lose the direct protection of NATO.

Territorially speaking, West Berlin is not a part of the NATO sphere. According to Article 6, paragraph 1, of the North Atlantic Treaty, the obligations of the member states become effective in the case of aggression "on the territory" of any of the participants in the treaty:

. . . in Europe or North America, on the Algerian Departments of France, on the territory of Turkey, or on the islands under the jurisdiction of any party in the North Atlantic area north of the Tropic of Cancer.

West Berlin and the Federal Republic

Without question, West Berlin is not the territory of any one of the occupation powers. Whether West Berlin is a member state of the Federal Republic is considered a debatable question by legal experts. The Western Allies—and this alone is pertinent here—have so far answered in the negative. This decision is expressed in specific particulars: laws for the Federal Republic do not necessarily pertain to West Berlin; the deputies from Berlin do not have a full vote in the Bundestag (Federal Assembly); and the Federal Constitutional Court in Karlsruhe has no jurisdiction over West Berlin.

The economic, legal, and political intertwining of West Berlin with the Federal Republic was effected with the consent of the Western Allies but the latter did not relinquish their position that West Berlin is constitutionally not a part of the Federal Republic.

Thus, in territorial terms, West Berlin does not belong to the NATO area, but this does not mean that it is part of East Germany. The eastern side contends strongly that Berlin is part of and on East German territory. This has been countered by the

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State Department in a declaration of 24 March 1960 which refers in particular to the London protocol of 12 September 1944. This protocol, the declaration states, "clearly shows that Berlin has been declared a separate area."

West Berlin is under the protection of the North Atlantic Treaty only because of the presence in the city of the occupation forces of the United States, Great Britain, and France. Article 6, paragraph 2, states that the North Atlantic Treaty is in force in the event of an attack:

... on the forces, vessels, or aircraft of any of the parties when in or over these territories (see Article 6, paragraph 1) or any other area in Europe in which occupation forces of any of the parties were stationed on the date when the treaty entered into force, or the Mediterranean Sea, or the North Atlantic area north of the Tropic of Cancer.²

At the time when the North Atlantic Treaty went into effect (1949), the United States, Great Britain, and France maintained occupation forces in Berlin. The fact that Berlin is part of "the European area" even the Soviets have so far not contested. An attack on the forces of the Western Powers stationed in West Berlin would put the treaty obligations of all of the NATO countries into action. But this

² The passage above is the altered version which went into effect on 22 October 1951, when Greece and Turkey joined the treaty. The original formulation of the article stated that all armed attack in the sense of the treaty would be considered as such if inflicted "on the occupation forces of any party in Europe."

would be so only because these forces have the legal right to occupy the city! It is on the basis of this legal status that West Berlin is included in the protective shield of the North Atlantic Treaty.

It could be argued that in view of the exposed location of West Berlin the protective functions of NATO are in practice insignificant. This may be true insofar as the ability to intervene immediately is concerned. There is a reluctance to face the united front of NATO countries in the waging of the cold war. This has considerable weight not only in the eyes of the world but also before the United Nations.

The prompt and unequivocal NATO reaction to the Soviet note of 27 November 1958, which raised the Berlin problem, was expressed in the declaration of the North Atlantic Council of 16 December 1958. The declaration confirmed the responsibilities of each member state with respect to the security and well-being of Berlin and the preservation of the position of the three powers in that city.

It should not be overlooked that such an unmistakable reaction on the part of NATO might have been open to question if the presence of the Western Powers in Berlin were not based on the legal status of the occupation.

If NATO were not of one mind in the matter, this would be a disadvantage. Thus, occupation can be an advantage, especially when it is viewed not as a burden but as reliable protection.

MOVING?

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ARTILLERY IN MOBILE COMBAT



Translated and digested from an article by Lieutenant Colonel K. von Beuningen (West German Army) in *REVUE MILITAIRE GENERALE* (France) July 1960.

THE development of modern weapons techniques and tactical requisites of modern combat have changed the characteristics of conventional arms. The uninitiated observer may find it difficult to recognize the fundamental changes involved.

The term "infantry" is associated with the soldier who, in close combat, brings about the decision on the battlefield. When speaking of infantry weapons, it is normal to think of rifles, submachineguns, sidearms, or bayonets. But, as a matter of fact, mortars, antitank weapons, and tanks are organic parts of an infantry unit. Modern combat technique of the infantryman requires new weapons providing the prerequisites for the success of the individual fighting man.

The progressive incorporation of organic supporting weapons into combat units began during World War I and continues in all armies of the world.

However, this development must come to a halt at the point where the required support of the combat formation can be obtained without incorporating additional supporting weapons into the formation. In other words, when mutual cooperation between the combat unit and the supporting weapons will assure success, subordination of the supporting arm or its incorporation into the combat unit is unnecessary.

From the standpoint of any particular arm of the service, any incorporation of its units into those of others is unjustified.

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Such subordination limits the action of the arm and precludes full exploitation of its potentiality. Any businessman recognizes this as a fundamental law of economy. European armies must observe this rule as closely as possible and as long as it can be reconciled with the tactical demands. On this point there exists a divergence of views in military thinking.

At what tactical level should artillery be incorporated organically into a combat formation? Where is integration required, and at what point does it become uneconomical?

To reach a conclusion on these problems, we must consider the capabilities of artillery, its mission, and its specific characteristics.

Artillery Is a Supporting Arm

Artillery is not independent but must adapt itself to the demands and requisites of the supported infantry and armor.

The highest degree of artillery effectiveness is obtained by massing the fires of a large number of pieces on a single target. Artillery is particularly suited for area fire.

Artillery executes indirect fire, thus, artillery can be emplaced behind other forces and can rapidly shift its fire onto widely separated targets.

The effectiveness of artillery lies in its firepower and observation. Its observers carry out the most rapid, accurate, and complete reconnaissance of all the arms. By virtue of its firepower, artillery is a supporting weapon of the combat element. However, the observation it furnishes and the exploitation of which it is capable make it a responsive tool to the commander. This fact has earned a respected position for the artillery in all branches of the service.

What Constitutes Artillery?

Artillery incorporates all types of delivery systems capable of launching indirect fire from the ground onto an enemy

target. These include the rifled gun, the mortar, and the rocket.

In some countries, mortar battalions are part of the artillery. Ground-to-ground missiles are generally incorporated in the artillery. Some countries, however, have assigned long-range missiles to their air forces. Certain targets require specific and specialized techniques. Consequently, over the course of time, artillery weapons have been developed to provide these techniques. However, the variety of weapons in use is limited for reasons of economy.

So long as the division was the smallest autonomous combat formation, artillery units in the division were combined in an artillery regiment. Artillery units in corps and armies were autonomous battalions which were temporarily attached to the artillery commander or the regiments according to the situation. In peacetime this organizational structure is still useful and has many advocates for it offers advantages in matters of training and instruction.

However, with the current trend toward the brigade as the lowest tactical unit, the organization of artillery has become problematical. Artillerymen must seriously consider the question whether to resist efforts to integrate artillery into combat formation, or whether such integration has become absolutely mandatory.

This question does not apply to heavy artillery. General support and reinforcing artillery must—if only for economic reasons—remain available for commitment where needed. Heavy artillery must not be an organic part of any combat formation.

Artillery battalions of light and medium caliber are a different matter. So long as the artillery and its logistical support remained in the hands of the divisional artillery regiment, it was adequate to assign an artillery battalion temporarily to cooperate with a specific combat unit. The change to brigades in the Bundeswehr (Federal Army of West Germany) has resulted in the total incorporation of light



General support artillery, like the self-propelled 8-inch howitzer (above) or the 177-mm gun (right), normally will be controlled above the brigade level to permit its employment where needed.

US Army Photos



artillery battalions into the brigades. Similar changes have been made in other countries. However, there are objections from individuals who are of the opinion that the organizational form of the artillery regiment should be retained. With all due respect for the advantages of this in times of peace, only tactical and logistical expediency can be given consideration in time of war.

Demands of Modern Warfare

Modern combat will be characterized by fluid conditions rather than rigid frontlines. Large gaps may exist between brigades. These can best be dominated by artillery fire. Exposed flanks and great depth may be the rule. Losses to atomic fires may force us to regroup and employ those units that are still combat worthy. Thus, the norm would be independently operating brigades or possibly reinforced battalions.

Although efforts will be made to retain the integrity of divisions, losses and an amalgamation of brigades may soon lead to a kaleidoscopic unit consisting of brigades of various nationalities. Each brigade must ensure its own logistical support. Brigade fronts of 10 kilometers may become usual. But since a brigade cannot defend itself successfully on such a front, delaying actions and counterattacks will alternate. Rapid change from one form of combat to the other will become habitual.

What conclusions must be drawn from these changes in combat operations for the artillery? Can the divisional artillery regiment cover a 30-kilometer battlefield represented by three brigades side by side? Can it, in constantly changing situations, still employ centralized command as in the past? Can it supervise all of the action and react promptly to changes in the situation?

Limitations on communications alone indicate that this is impossible. A precise evaluation of the battle situation necessitates direct communications between the

artillery regimental commander and the artillery battalion commander when it is desired to employ the artillery battalion of the brigade on other missions. But in fluid combat conditions only radio communication is possible. A direct discussion becomes problematical.

Massing of Fires

Artillery ranges will rarely permit a concentration of more than the artillery of two brigades on the same target.

Thus, a massed concentration of the brigade artillery battalions is no longer feasible.

Temporary overlapping may occur in cases of smaller combat frontage. But this will not be the rule. Frequent threats to the flanks require the battery emplacements to be well to the rear of the front-line so that flank protection can be provided without a change in position.

The concentration of fire of several brigades becomes even less likely when several brigades are staggered in depth in mobile combat. The following conclusions are obvious:

In most instances the brigade artillery cannot be commanded as part of the divisional artillery regiment.

Temporary subordination to the artillery regimental commander under mobile combat conditions is not expedient since this could deprive the parent brigade of its artillery at a crucial time.

Mutual support by the artillery elements of neighbor units is rarely possible.

Ammunition supply responsibility can no longer be assured by the artillery regiment since logistics are now the responsibility of the brigade.

Do these combat developments negate the principle of mass fire which has been applied to artillery in the past? No, but artillerymen must adapt new methods and discard timeworn conceptions. The artillery regiment in its old form is obsolete because it is too inflexible. It is relegated to the past. The brigade is a small divi-

sion and not a combat regiment and the brigade artillery battalion commander has acquired the role of the division artillery regiment commander. The division artillery commander has under his direct orders the reinforcing artillery within the division. Thus, he can converge fire on one target wherever the need arises without having to divert brigade artillery. While the regimental commander should exert influence on the training and instruction of the brigade battalions in times of peace, the permanent or temporary subordination of the brigade artillery battalions to the regiment is out of date.

Role of Divisional Artillery

Concentration of fire on critical targets can be achieved by division artillery. This is the real tactical mission of the division artillery. Only with a strong di-

vision artillery can the necessary influence on tactical operations be achieved. The brigade artillery should be called upon to reinforce fires of the division artillery when the situation permits. But this can only be the exception. The principal mission of the brigade artillery is the direct support of the brigade. Due to the separation into brigade artillery and division artillery, the striking power of the former must be increased. This is the only way to obtain sufficient massing of fires. This increase must be in firepower rather than in size.

Thus, the division artillery commander of the future will find his principal role to be the direction and coordination of general support and reinforcing artillery, much of which will be provided by units attached by higher authority.

This article, premised on the brigade structure of the Bundeswehr, highlights a key problem in the organization of forces for dispersed combat. A spokesman for the United States Continental Army Command stated in his presentation of the MOMAR (Modern Mobile Army) concept, "Past and present doctrine has prescribed the division as the basic echelon of combined arms and services. We now believe that an appropriate organizational trend for the future is to integrate this capability one echelon lower."

France, in her recently announced 59 Division, has established the brigade as the integrated combined arms team (MR, Sep 1960, p 65). Great Britain and Canada in their brigade group concept provide organic artillery at the brigade level.

The author presents an interesting thesis on the future role of the division artillery commander.—Editor.

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BOOKS OF INTEREST TO THE MILITARY READER

THE EDGE OF THE SWORD. By Charles de Gaulle. Translated from the French by Gerard Hopkins. 128 Pages. Criterion Books, Inc., New York. \$3.50.

By MAJ SAM H. SHARP, *Inf*

In this book Charles de Gaulle explains how to keep the edge on the sword of military power, and asserts that such a force always will be necessary as long as humanity continues its present form.

Essentially a study of the proper philosophy for the soldier, it presents the author's views on the conduct of war, character, prestige, doctrine, and politics as related to the soldier. It is sprinkled liberally with piquant historical examples to illustrate his point of view. Using hindsight, his observations now can be seen as the code which has guided his personal conduct and led to his acclamation as the President of France.

His assertions must be transposed to the present time, but having done so the reader can readily see that his principles apply equally as well today as when they were formulated.

This is not a complete treatise on character, for many generally accepted fundamentals are not discussed. It deals only with those aspects which are the most significant in De Gaulle's opinion.

Translated from the French, the book loses some of its strength and includes some involved sentence structure. However, it is still plain, easily understood, and a valuable asset to leadership in the military service.

PICKETT'S CHARGE: A Microhistory of the Final Attack at Gettysburg, July 3, 1863. By George R. Stewart. 354 Pages. Houghton Mifflin Co., Boston, Mass. \$5.00.

By LT COL TOM HANIFEN, *Armor*

This lucid account of 15 hours of the third day at Gettysburg is the work of a master narrator. It is first-class reporting, and the author again demonstrates the technique of the detailed narrative made familiar in his *Storm and Fire*.

The battle probably is the best attested of any in the war, and, perhaps, of any before the 20th century. Historical imagery compels the reader through the thoughts and preparations, among the urgent words and reckless actions, of men whose lives depended on the roll, dip, and rise of a mile of Pennsylvania farmland.

One of the nine Southern brigades in the attack broke and crumbled; one of the 27 Northern regiments in the defense ran. Tactics, weapons, and firepower have their place in this dramatic and stirring book. The human interest of the problems faced by the various generals is not herein presented in splendid isolation; also revealed are the problems, too often solved only by death, of many less famous Americans.

No attempt is made to speculate as to how the battle might or should have been fought. This is how the action *was* fought.

This book is essential to all Civil War collections in libraries of all sizes. Its style is a model for those with the penchant for authorship.

THE CONTINUING STRUGGLE. Communist China and the Free World. By Richard Louis Walker. 155 Pages. Athene Press, Inc., New York. \$2.00.

By MAJ EUGENE P. FORRESTER, *Inf*

Recent world events have pointed more and more to the growing strength of Communist China. So much has been written recently about Mao's China that it has become difficult to distinguish fact from propaganda, whether offered by writers of the East or West. In this book Professor Walker has tried to put the history of Communist China in proper perspective by showing what gains have probably been made and what can be expected in the future developments of economy and political structure.

After only a few pages most readers will feel they are getting information prepared by a rightfully acknowledged expert on Red China. Extremely good use has been made of timely articles emanating from Communist China which shed light upon the picture they are trying to paint for the outside world. However, some of these writings could have been more carefully extracted without losing their essential value or burdening the reader with a considerable amount of detail.

This book is not light reading. Exhaustive documentation and extensive research have, however, produced a splendid handbook of genuine value to anyone interested in understanding the growth of communism in China. Professor Walker has done much to "debunk" the myth that Red China can be expected seriously to rival economically either the United States or the Soviet Union soon. But he has also resisted the temptation to ignore the dynamic influences prevalent in Asia which must be reckoned with by the Free World.

COMBAT LEADER'S FIELD NOTEBOOK. 123 Pages. The Stackpole Co., Harrisburg, Pa. \$2.00.

SOVIET ECONOMIC WARFARE. By Robert Loring Allen. 293 Pages. Public Affairs Press, Washington, D. C. \$5.00.

By MAJ HERMAN T. HUNT, Jr., *Armor*

Many Americans think of warfare in purely military terms. The Soviets do not, and one relatively new weapon in their arsenal is economic warfare.

Professor Allen of the Institute of International Relations, University of Oregon, discusses the Soviet use of this weapon from the death of Stalin to the present. During this short time the Soviets have demonstrated the capability to wage this type warfare.

In military language this book is an intelligence report. It does not propose courses of action for the Western World, but provides valuable background information on Soviet capabilities. Soviet economic activities in Asia, the Middle East, and Latin America, and prospects for the future are covered.

The author does not believe that the Soviets are "nine feet tall," but he does not discount their ability to damage us. He points out that they have made mistakes, but that they learn from experience.

However, the climate of nationalism and skillful propaganda have aided the Soviets in initial dealings with the underdeveloped countries which constitute their main target. Many of these countries have found to their sorrow that Soviet words and deeds do not always agree. Yet some countries continue to trade with the USSR to make the best of a bad bargain, to emphasize their neutralism, or perhaps to secure concessions from the West.

This, then, is the challenge. As the author states, the tactics and techniques of Soviet economic warfare are not static. They are dynamic, and the program of 1959 may be as obsolete in 1960 as the use of the chariot in armed conflict. However, the final objective of all Soviet strategy remains constant—world domination.

CRISIS DIPLOMACY. A History of U. S. Intervention Policies and Practices. By D. A. Graber. 402 Pages. Public Affairs Press, Washington, D. C. \$6.75.

By Lt Col FRANCES J. KELLY, *Armor*

The recent thrusts of ideological communism into Asia, Africa, and Latin America have revived a fundamental tenet of American foreign policy—the policy of nonintervention. There have been many opposite views in terms of the moral, political, social, and economic considerations attendant to this policy, depending largely on the subjective influence of the proponent.

This book is a definitive treatment of the total question of the policy of nonintervention. It distinguishes dialectically the origin, principles, precepts, evolution, and substance of both the theory and practice of nonintervention. The obvious intent of the book is to define carefully what is the theory and how it has been adjusted in practice. The underlying element in this discussion is the legal ramifications of the policy encountered, in terms of national and international practice. The precise detailing of pertinent incidents is a major asset of the book.

Political science students may not agree with all the premises accepted by the author. One school of opinion, for example, might dispute Miss Graber's contention that the nonintervention policy included European political problems. The author contends that the policy included all facets of national life, not excepting the political.

The clinical dissection of an extremely interesting topic, and the disentangling of apparent contradictions in the theory and practice make this book a valuable and highly recommended reference for students of political science. It is well-organized, carefully annotated, thoroughly researched, and written in an interesting and polished manner.

NATHANAEL GREENE. Strategist of the American Revolution. By Theodore Thayer. 500 Pages. Twayne Publishers, Inc., New York. \$6.95.

By Lt Col WILLIAM D. BEARD, *Inf*

The American Revolution produced many outstanding political and military leaders. Major General Nathanael Greene was one of the latter. Thomas Jefferson said of his military talents, "In the War of Independence, Nathanael Greene was second to no one in enterprise, in resources, in sound judgment, promptitude of decision, and every other military talent."

Nathanael Greene was from a provincial middle-class Rhode Island Quaker family. He was self-educated, aggressive, and ambitious. Prior to the war he was a moderately successful Rhode Island businessman.

General Greene came to General Washington's attention early in the war as an able administrator and strategist. He became the general's confidant, friend, and advisor, and it was generally understood that he was General Washington's choice to be his successor should the need arise.

He served with distinction as a commander and staff officer during the campaigns in the North. When the Continental Army was threatened with collapse, due to lack of supplies and equipment, General Greene accepted, against his wishes, the position of Quartermaster General. His organizational ability and tireless efforts were indispensable in keeping the army in the field in spite of the collapsing continental economy.

Greene was later appointed commander of the Southern Department where his brilliant strategy and daring maneuvers saved this section from British domination.

This biography contains many interesting descriptions of battles as well as details of military planning and glimpses of camp and social life of the period.

ARMS AND POLITICS IN LATIN AMERICA. By Edwin Lieuwen. 296 Pages. Frederick A. Praeger, Inc., New York, 1960. \$4.75.

By MAJ BEVERLY A. FINKLE, *Arty*

At a time when United States foreign policy is undergoing substantive reappraisal, Mr. Lieuwen sketches with broad brush the power of the military, both progressive and predatory, to shape the form and to color the tone of governments within the Latin American Republics. The author recognizes that few North Americans know, understand, or appreciate the problems of our "good neighbors" who, with us, comprise the Organization of American States (OAS) and who control one-quarter of the vote in the General Assembly of the United Nations.

Mr. Lieuwen suggests that an economic rather than military emphasis in US policy would produce a generally more favorable popular image of this Nation. He acknowledges that the military are becoming increasingly professional and less political in their outlook.

He strongly criticizes the military features of US policy which have resulted in full collaboration with friendly incumbent governments regardless of their political leanings.

This book fails to recognize that in many cases the military have stood squarely behind changes which curtailed their own power and influence. It fails to acknowledge fully the military contributions in many of the Latin American nations to the establishment and maintenance of 20th century liberal and democratic institutions.

These southern neighbors have long been torn by ideological crosscurrents and violent social and cultural revolutions against the more conservative traditions of church hierarchy and the landed few. Education for democracy is not widespread. The treatment of political, social, and cultural influences is cursory at best.

ATLAS OF THE ARAB WORLD AND THE MIDDLE EAST. 72 Pages. St. Martin's Press, Inc., New York. \$9.00.

Here is an extremely useful specialized atlas of this critical portion of the world. In addition to the normal geographical and political maps, this book includes good graphic presentations of rainfall distribution, demographic data, natural resources, the evolution of international boundaries, land use, transportation networks, and drainage systems. A brief generalized discussion of the historic background and the present culture of the region, accompanied by excellent illustrations, is provided.

NAVAL LOGISTICS. By Vice Admiral George C. Dyer, United States Navy (Retired). 351 Pages. United States Naval Institute, Annapolis, Md. \$5.00.

A basic text on applied logistics within the United States Navy, this volume includes a discussion of the historical milestones in the evolution of logistical support for modern naval forces.

LEADERSHIP, PSYCHOLOGY, AND ORGANIZATIONAL BEHAVIOR. By Bernard M. Bass. 548 Pages. Harper & Bros., New York. \$6.50.

By LT COL LEO J. HAGERTY, *USAF*

This is a social psychology text on the interaction of individuals and groups. Its outstanding characteristic is the compilation, in one book, of knowledge on this subject from several disciplines. The extensive coverage is indicated by a 66-page bibliography.

Excellent as it is, the book is not primarily intended for the military reader. Leadership, although intensively discussed, is considered within a civil context. It does not have direct application to the military situation.

GUIDE FOR ARMY NATIONAL GUARDSMEN. By James B. Deerin. 322 Pages. The Stackpole Co., Harrisburg, Pa. \$3.50.

This handbook for National Guardsmen covers the general organization of the Armed Forces and their components and a multitude of facts on guard training programs, uniforms, customs, administration, and personal affairs.

SOLDIERS AND GOVERNMENTS. Edited by Michael Howard. 192 Pages. Indiana University Press, Bloomington, Ind. \$3.75.

By MAJ EDWIN J. MCCARREN, *Armor*

In the introduction to the book Mr. Howard states:

The problem of civil-military relationships is one with which, in one form or another, all societies have to deal. In states where no orderly transition of power and obedience has yet been established—or those where it has been destroyed—military force is the final and sometimes the only arbiter in government. It may indeed be said that societies are orderly and peaceable only insofar as they have solved this double problem, of subordination of the military force to the political government, and of control of a government in possession of such force by legal restraint and the popular will.

This statement presents the problem which is discussed through the media of nine studies in civil-military relations. The basis for these studies is a series of lectures delivered at King's College, University of London, in 1956.

Following an excellent preface by George Fielding Eliot in which he updates the material to 1958, are studies in military-civil relations in England, France, Germany, Russia, Japan, Spain, Latin America, and the United States. Each of these short analyses, averaging about 15 pages, deals with the role played by the military in political affairs, the conse-

quences involved, and the civil-military relationship which existed throughout World War II. These analyses have been edited carefully; consequently, they are meaty and interestingly presented.

This volume presents in such a clear, concise manner the military role in the countries discussed and the effects of the power (or lack thereof) of the military element, that it is highly recommended to the military reader. In spite of the condensation, the intrigue and behind-the-scenes political maneuvering are vividly retained. Additionally, each section is well-documented and indexed which enhances its value as a reference.

Since the original lecturers were British, it is interesting to observe their attitudes, especially in the section dealing with the United States.

THE COMMUNIST PERSUASION. A Personal Experience of Brainwashing. By Eleutherius Winance, O. S. B. Translated by Emeric A. Lawrence, O. S. B. 239 Pages. P. J. Kenedy & Sons, New York. \$3.95.

By LT COL KLEMENS M. NELSON, *Arty*

Against a background of 15 years in China, the author has vividly recounted his personal experience with the gravest threat ever to face mankind—communism.

Personally undergoing and observing *Hsio-Hsi* (indoctrination) at regular four-hour meetings three times a week, the author has added to the knowledge and understanding of this weapon which is still greatly underrated by the people of the Free World.

The techniques used and terrifying results obtained are clearly apparent as the author places the reader by his side in China during the summer of 1949. From then until his expulsion in 1952 the reader sees through the eyes of the author what happened in China, and, more important, how.

PREPARING FOR THE MOS PROFICIENCY TEST. By Captain Robert A. Sullivan, United States Army, and John W. Gause. 88 Pages. Military Service Division, The Stackpole Co., Harrisburg, Pa., 1960. \$1.50.

THE POLITICAL ECONOMY OF NATIONAL SECURITY. A Study of the Economic Aspects of the Contemporary Power Struggle. By James R. Schlesinger. 292 Pages. Frederick A. Praeger, Inc., New York. \$5.00.

By MAJ ROBERT C. BURGESS, *Arty*

Speaking of the economic policies of the United States in the cold war, the author states, "Engaged as we are, in a deadly game of poker, we have not known when to cut our losses, have drawn consistently to 'inside straights,' and have refused to raise the stakes when our hand is strong." This is refreshingly direct talk for an economist, and throughout most of his book, Mr. Schlesinger continues to expound his arguments in a most understandable style.

Taking the broad view of economic analysis as fundamentally dealing with choice, he conducts the reader through a searching study of the various economic factors which bear on national security. The book examines the implications of the principles of resource allocation in four general areas:

1. The problem of allocation of total output so as to satisfy the requirements of consumers, the need for investment, and the needs of national security.
2. Techniques for allocation during mobilization.
3. The proper balance between public and private sectors, and within the government itself.
4. The problems of international resource allocation through international trade.

The scope of this work is large, and the

author is quick to point out that he is not proposing an "economic panacea" which can afford maximum security and prosperity to the nation.

This unusual analysis of the critical issue of resource allocation makes informative reading. It is highly recommended for those interested in the basic economic problems affecting national security which face our country today.

CHRONOLOGY: 1941-1945. United States Army in World War II. By Mary H. Williams. 660 Pages. Superintendent of Documents, US Government Printing Office, Washington, D. C. \$4.75.

From the day the bombs dropped on Pearl Harbor on 7 December 1941 to the day the Japanese surrendered aboard the *USS Missouri* in Tokyo Bay on 2 September 1945, the sequence of World War II events unfolds in the pages of the latest volume in the series UNITED STATES ARMY IN WORLD WAR II.

Although *Chronology: 1941-1945* focuses principally on the ground combat operations of the United States Army in its various campaigns in Africa, Europe, China-Burma-India, the Far East, the Pacific, and the Western Hemisphere, it also covers air and naval support as well as crucial actions of Allied and enemy forces. General events of historical import are included to the extent permitted by space limitations.

The value of this exhaustive, thoroughly indexed book is twofold. In one volume the general reader and the student of military history have a ready reference to the entire war during that period in which the US participated and can quickly check individual facts and dates. In addition, they are able to observe the progress of combat operations in any theater on any given day or follow the day-by-day progress of a single unit to the conclusion of a specific campaign.